```
7, 2005, 20:44:40; Search time 121.533 Seconds (without alignments) 273.682 Million cell updates/sec
                                                                                                                                                                                                    1 AVITGACERDVQCGAGTCCA.....CSRFPDGRYRCSMDLKNINF
GenCore version 5.1.6
(c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                            2105692 seqs, 386760381 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                     first 45 summaries
                                                                  sw model
                                                                                                                                                                                                                                           BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            geneseqp2003as:*
geneseqp2003bs:*
geneseqp2004s:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A_Geneseq_16Dec04:*
: geneseqp1980s:*
                                                                                                                                                                                                                                                                                                                                                                                                               Minimum Match 0%
Maximum Match 100%
Listing first 45 st
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        geneseqp2000s:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        geneseqp2001s:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              geneseqp2002s:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        geneseqp1990s:*
                                                                  - protein search, using
                                                                                                                                                                                                                                                                                                                                                                  length: 0
length: 2000000000
                                                                                                                                                                       US-10-811-328-3
                  Copyright
                                                                                                    November
                                                                                                                                                                                                                                                                                                                                                                                                                        Post-processing:
                                                                                                                                                                                                                                                                                                                                                                  Minimum DB seq
Maximum DB seq
                                                                                                                                                                       Title:
Perfect score:
                                                                                                                                                                                                                                             Scoring table:
                                                                      OM protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Database :
                                                                                                                                                                                                                                                                                                Searched:
                                                                                                                                                                                                             Sequence:
                                                                                                      Run on:
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Aab70146 Human G p Abb76801 Human ZAQ Abj05338 Human ZAQ Aa015529 Human phy Abb6306 Human ppy Aae24383 Human pro Add69104 Human ZAQ Human pro Amino aci Human ZAQ Human pro Human pro Human pro Membrane-A human T Human G p Amino aci Description Add69104 1 Adc05360 1 Adn43256 Adr24003 1 Adr24003 Aae24395 1 Aae24392 Aay66745 Aab18453 Aab68427 Aau12406 Aab53096 Aab65268 Aab48175 AAY66745 ABB06306 ADO05360 ADN43256 ADR24003 AAB70146 AAB18453 4BB76801 8 Query Match Length 00 8 8 5 445 223 223 224 223 233 244 253 Result Š.

Abb06308 Human G p Aae24382 Human pro	Нишап	Human	Novel	Human	Abol7850 Novel hum	Human	Abu80821 Human PRO	Novel	Abul3974 Human PRO	Human	Abu81104 Human PRO	Abu07603 Human ZVE	Abu72559 Novel hum	Abu66804 Human PRO	Abu59885 Novel sec	Abu59308 Human sec	Abo26005 Human PRO	Abo25075 Human sec	
5 ABB06308 5 AAE24382	5 ABB95508	6 ABU58083	6 ABU59161	6 ABU82673	6 ABO17850	6 ABU60592	6 ABU80821	6 ABO33787	6 ABU13974	•	6 ABU81104		6 ABU72559	6 ABU66804	6 ABU59885	6 ABUS9308	6 ABO26005		
105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	105	
100.0	4 ~	H	-	-	100.0	-	٦	100.0	-	-	-	' -	-		-	-	100	ות	
498	498	498	498	498	498	498	498	498	498	498	498	498	498	4 9 8	498	498	498	498	
26	28	29	30	31	200		3.4	. c	3.6	3.7	. 6	0 0	0 4	4 4	4.2	. 4	4 4	45	1

## ALIGNMENTS

AAB70146 standard; protein; 86 AA

RESULT 1 AAB70146 AAB70146;

Human; G protein-coupled receptor protein; nootropic; neuroprotective; hypotensive; orexigenic; antiallergic; antianginal; antimicrobial; antibacterial; gene therapy; Alzheiner's disease; hypertension; anorexia; allergy; angina pectoris; infection; MRA; multiple resistant Staphylococcus aureus. New human brain-originated guanosine triphosphate protein-coupled receptor protein, its salt and encoded gene, useful in (gene) diagnosis and development of preventives and remedies for Alzheimer's disease, Human G protein-coupled receptor protein-related sequence #2. Terao Y, Shintani Y; 27-AUG-1999; 99JP-00241531. 18-JUL-2000; 2000JP-00217474. 24-AUG-2000; 2000WO-JP005685 (TAKE ) TAKEDA CHEM IND LTD hypertension and anorexia. WPI; 2001-226684/23 WO200116309-A1 Watanabe T, Homo sapiens 29-MAY-2001 08-MAR-2001 

Example 4; Fig 9; 119pp; Japanese.

The present sequence is provided in a specification relating to a protein or its salt with an amino acid sequence identical or substantially similar to a fully defined sequence of 393 amino acids as given in the specification. The protein is useful in gene diagnosis and development of preventives and remedies for diseases associated with dysfunction of the protein, e.g. Alzheimer's disease, hypertension, anorexia, allergy, angina pectoris and infections (e.g. multiple resistant Staphylococcus aureus. The proteins and DNA encoding the proteins are also useful for

Human ang Human PRO Human PRO Human PRO

AAU12406 AAB65268

8

AAB48175 AAB48067

AAB68427

Human ext

Aab48067 Aam50773

Human Human

Aau83674 B Abb84902 B Aao15527 B

~

SXS

8 셤 ઠે 원

```
The invention comprises a method of producing a target peptide. The C-terminal end of the target peptide is fubed via a protease-susceptible linker to parathyroid hormone (PTH) residues 1-34. The method of the invention is useful for the clean and efficient production of a target peptide at a high expression rate on an industrial scale without the need protence the N-terminal methionine from the product. The peptides produced by the method of the invention are suitable for pharmaceutical and other uses. The present protein sequence was used in the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Production of target peptide comprises cleavage of fusion peptide with parathyroid hormone peptide for efficient manufacture of target peptide without the need to remove N-terminal methionine.
                                                                                                                                                                                                                                 Target peptide production; fusion peptide; protease-susceptible linker; parathyroid hormone; PTH; high expression rate;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%; Score 498; DB 5;
100.0%; Pred. No. 7.4e-47;
ive 0; Mismatches 0;
 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CLPNLLCSRFPDGRYRCSMDLKNINF
 CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 14; Page 16; 103pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ą.
                                                                                        Ä
                                                                                       ABJ05338 standard; protein; 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AA015529 standard; protein; 86
                                                                                                                                                                                                                                                                                                                                                                                                             29-OCT-2001; 2001WO-JP009476.
                                                                                                                                                                                                                                                                                                                                                                                                                                                   30-OCT-2000; 2000JP-00331170.
27-JUN-2001; 2001JP-00195522.
                                                                                                                                                                                                                                                                      pharmaceutical application.
                                                                                                                                                           08-NOV-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                Human ZAQ protein ligand.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        86; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (TAKE ) TAKEDA CHEM IND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Suenaga M;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2002-417275/44.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N-PSDB; ABT06826
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 86 AA;
                                                                                                                                                                                                                                                                                                                                           WO200236762-A1.
                                                                                                                                                                                                                                                                                                          Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             24-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                            10-MAY-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Yamada T,
 61
                                                                                                                          ABJ05338;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AA015529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                        ABJ05338
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AA015529
                                                       RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT
 유
                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SYXXXX
                                                                                                         o;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  proteins. The method comprises preparing a recombinant vector for transforming a host cell before culturing the obtained transformant, assaying expression of the reporter gene and confirming high expression of the recombinant proteins are useful as drugs, reagents, raw materials for industries and feeding stuffs. Also, the proteins are obtainable on large-scale production. The present sequence was used to illustrate the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Production of recombinant proteins in prokaryotes or eukaryotes particularly with target proteins obtainable through gene recombination technique, for use as drugs, reagents, raw materials for industries and
                                                                                                                                                               1 AVITGACERDVQCGAGTCCAISLMLRGLRMCTPLGREGEECHPGSHKVPFFRKKKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                          1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The present invention relates to a method for producing recombinant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ..
0
                                                                                                         ö
                                                                        Length 86;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 86;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Recombinant protein production; drug; reagent; food stuff.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                       Indels
                                                                                                         .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%; Score 498; DB 5;
100.0%; Pred. No. 7.4e-47;
ive 0; Mismatches 0;
                                                                      Score 498; DB 4;
Pred. No. 7.4e-47;
the treatment of these diseases by gene therapy
                                                                                                       Mismatches
                                                                                                                                                                                                                 86
                                                                                                                                                                                                                                     CLPNLLCSRFPDGRYRCSMDLKNINF 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLPNLLCSRFPDGRYRCSMDLKNINF 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure; Page 133; 137pp; Japanese.
                                                                                                                                                                                                               61 CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                                                                             ¥.
                                                                                                         ..
                                                                                                                                                                                                                                                                                                                                         ABB76801 standard; protein; 86
                                                                    100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               25-JUL-2001; 2001WO-JP006392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  25-JUL-2000; 2000JP-00229064
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (TAKE ) TAKEDA CHEM IND LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Tanaka Y, Kondo M;
                                                   Ouery Match
Best Local Similarity 100..
Local Similarity 100..
86; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity 100.
nes 86; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2002-179906/23
                                     ¥
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 86 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO200208417-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               stuffs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens.
                                   Sequence 86
                                                                                                                                                                                                                                                                                                                                                                                                             19-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human ZAQ-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           31-JAN-2002
                                                                                                                                                                                                                                                                                                                                                                          ABB76801;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               feeding
```

Ito T,

RESULT 2 ABB76801

Matches

ਨੇ 엄 δ

ö

Gaps

. 0

Length 86; Indels 09 9

```
Ŀά
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Zhou Q,
                                             Hinuma
                                   Ohtaki
                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                           AAE24383
                                                                                                                                                                                                                                                                                                                                                                                                                RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                             The invention comprises a method for producing an active peptide that has the same activity as a ZAQ ligand isolated from eukaryotic cells. The method of the invention is useful for the production of a physiologically -active ZAQ ligand for use in preventing or treating digestive diseases (e.g. colitis and diarrhea). The present amino acid sequence represents a human physiologically active ZAQ ligand-related protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  G protein-coupled receptor; ZAQ ligand; physiologically active peptide; ZAQ; antidiarrheic; laxative; drug development; digestive disease; colitis; diarrhoea; constipation; poor-absorption syndrome; gene therapy.
                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                         expressing
use in
                  ZAQ ligand; physiologically-active ZAQ ligand; digestive disease;
                                                                                                                                                                                                                                                                                                                                                                                      AVITGACERDVOCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                       Industrial production of physiologically-active ZAQ ligand by express in transformant prokaryote and refolding in redox buffer, for use in preventing or treating digestive diseases e.g. colitis and diarrhea.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human G protein-coupled receptor ZAQ ligand protein SEQ ID NO:21.
                                                                                                                                                                                                                                                                                                                                                                    .;
0
                                                                                                                                                                                                                                                                                                                                                ; Score 498; DB 5; Length 86;
; Pred. No. 7.4e-47;
0; Mismatches 0; Indels
 Human physiologically-active ZAQ ligand-related protein 4.
                                                                                                                                                                                                                                                                                                                                                                                                                            86
                                                                                                                                                                                                                                                                                                                                                                                                                                             86
                                                                                                                                                                                                                                                                                                                                                                                                                                      CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                                                                                                                                                            CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ä
                                                                                                                                                                     Nishimura
                                                                                                                                                                                                                                               Claim 2; Page 79; 93pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ABB06306 standard; protein; 86
                                                                                                                                                                                                                                                                                                                                                   100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 17-JUL-2001; 2001WO-JP006162.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   18-JUL-2000; 2000JP-00217442
                                                                                                                       22-JAN-2001; 2001JP-00013027.
                                                                                                     21-JAN-2002; 2002WO-JP000378
                                                                                                                                                   (TAKE ) TAKEDA CHEM IND LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                      86; Conservative
                                                                                                                                                                     Suenaga M,
                                                                                                                                                                                        WPI; 2002-566801/60.
                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
                               colitis; diarrhoea
                                                                                                                                                                                                                                                                                                                                 Sequence 86 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO200206483-A1
                                                                 WO200257443-A1.
                                                Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  27-MAY-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              24-JAN-2002
                                                                                    25-JUL-2002
                                                                                                                                                                      Yamada T,
                                                                                                                                                                                                                                                                                                                                                                                        Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ABB06306
                      Human;
                                                                                                                                                                                                                                                                                                                                                             Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ношо
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ABB06306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                             8
```

```
The present invention describes a peptide containing an amino acid sequence (I) identical to or substantially similar to that of the sequences in ABB06305 or ABB06306, or its salt. (I) has antidiarrheic an laxative activities. The peptides and encoding DNAs from the present invention are useful for developing drugs to treat digestive diseases like colitis, diarrhoea, constipation and poor-absorption syndrome, including gene therapy. The physiologically-active cows milk-originated peptides are applicable as a specific ligand of brain-originated orphan protein-coupled receptor protein ZAQ. ABL49615 to ABB40659 and ABB06303 to ABB06315 represent sequences used in the exemplification of the present invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 AVITGACERDVQCGAGICCAISLWLRGLRMCTPLGREGEBCHPGSHKVPFFRRRKHHICP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human, prokineticin 1, gastrointestinal motility, intestinal cancer, irritable bowel syndrome, gastrointestinal reflux disease, diarrhoea, diabetic gastroparesis, chronic constipation, malabsorptive disorder, inflammatory bowel disorder; analgesic, infectious disease.
                                                                                                                                                                                                                                                       Physiologically-active peptides from cows milk, useful for developing drugs to treat ZAQ-mediated diseases, particularly digestive diseases like colitis, diarrhea, constipation and poor-absorption syndrome, by gene therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                    Υ,
                                                                                                      Shintani
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 86;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                      Terao Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 498; DB 5;
Pred. No. 7.4e-47;
                                                                                                      Watanabe T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human prokineticin 1 mature protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                      Takatsu Y,
                                                                                                                                                                                                                                                                                                                                                                                                     Claim 1; Fig 9; 191pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAE24383 standard; protein; 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      03-NOV-2000; 2000US-0245882P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-NOV-2001; 2001WO-US047969
02-FEB-2001; 2001JP-00026779.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                86; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (REGC ) UNIV CALIFORNIA.
                                                  (TAKE ) TAKEDA CHEM IND
                                                                                                         Masuda Y,
                                                                                                                                                                                       2002-188546/24.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ehlert FJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
                                                                                                                                                                                                                N-PSDB; ABL49635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 86 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO200236625-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          04-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               10-MAY-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAE24383;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              63
```

ö

9

U

and

```
Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          30-OCT-2003,
                                                                                                                                                                                                                                                                                                                            AD005360;
                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Zhou Q,
                                                                                                                                                                                                                                                                               RESULT 8
ADO05360
 ¥8888888888
                                                                                                                                                                                                 d
                                                                                                                                                                               ò
                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                 ö
                                           gastrointestinal smooth muscle contraction, useful for improving impaired gastrointestinal motility in irritable bowel syndrome, chronic
                                                                                                         The invention relates to human prokineticin 1 and 2 polypeptides that stimulate gastrointestinal smooth muscle contraction and nucleic acid molecules encoding such polypeptides. Polypeptides of the invention are useful for treating disorders involving impaired gastrointestinal motility. They are useful for stimulating gastrointestinal motility in disorders such as irritable bowel syndrome, diabetic gastroparseis, postoperational ileus, chronic constipation and gastrointestinal reflux disease. The prokineticin antagonists are useful for inhibiting gastrointestinal motility in conditions of diarrhoea, malabsorptive disorders, inflammatory bowel disorders, infectious diseases and intestinal cancers. The antagonists also act as analgesics. The present
                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Angiogenesis inhibitors for treatment and prevention of cancer, ovarian
                                                                                                                                                                                                                                                                                                                            1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                       1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                      Gaps
                                 New isolated human prokineticin 1 and 2 polypeptides that stimulate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         angiogenesis inhibitor; cytostatic; antiinflammatory; cancer; ovarian disease; diabetic retinopathy; inflammatory; ZAQ; Bv8; I5E;
                                                                                                                                                                                                                                                                                                      ;
0
                                                                                                                                                                                                                                                                               Length 86;
                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                             100.0%; Score 498; DB 5; ilarity 100.0%; Pred. No. 7.4e-47; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                    sequence is human prokineticin 1 mature protein
                                                                                                                                                                                                                                                                                                                                                                        98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 1; SEQ ID NO 82; 308pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human ZAQ-related protein - SEQ ID 82.
                                                                                                                                                                                                                                                                                                                                                                                    CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                                                                                                       CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                       Claim 1; Page 79-80; 86pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         inflammatory disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                    86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Takatsu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       03~FEB-2003; 2003WO-JP001057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             04-FEB-2002; 2002JP-00027299
                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADD69104 standard; protein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (TAKE ) TAKEDA CHEM IND LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ohtaki T, Masuda Y,
2002-479752/51.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2003-646310/61
                                                                                                                                                                                                                                                                                        Local Similarity
les 86; Conserv
          N-PSDB; AAD39321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N-PSDB; ADD69110
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO2003066860-A1.
                                                                                                                                                                                                                                                        Sequence 86 AA;
                                                                  constipation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         diseases and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15-JAN-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14-AUG-2003
                                                                                                                                                                                                                                                                              Query Match
Best Local Si
Matches 86;
                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADD69104:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  human.
                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 7
                                                                                                                                                                                                                                                                                                                                                                                                                                         ADD69104
셤
                                                                                                                                                                                                                                                                                                                                                                       ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
```

```
The invention relates to a method of screening for a compound for its ability to modulate circadian rhythm. The method involved determining the ability of a prokineticin 2 (PR2) receptor agonist or antagonist to modulate one or more indicia or circadian rhythm function. The compound is identified as being a PR2 receptor agonist or antagonist by determining its effect on a predetermined signal such as calcium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human; prokineticin 1; PK1; circadian rhythm; modulation; drug screening; circadian rhythm disorder; non-24-hour sleep-wake syndrome; rapid time-zone change syndrome; jetlag; work-shift syndrome; delayed phase sleep syndrome; advanced sleep phase syndrome; irregular sleep-wake pattern syndrome; decreased amplitude syndrome; hunger; infardian rhythm; dashee shull keceptivity; CNS; central nervous syndrome; PK2 receptor ahtagonist; PK2 receptor agonist.
The invention relates to a novel angiogenesis inhibitor comprising a compound that inhibits the activity of an amino acid sequence given in the specification. Angiogenesis-related proteins BN9, ZAQ and ISE were utilised within the method of the invention. The molecules of the invention demonstrate cytostatic and antiinflammatory activities whilst the method may be useful for treatment and prevention of cancer, ovarian diseases, diabetic retinopathy and inflammatory disease. The current sequence is that of the human ZAQ-related protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            seasonal disorders, comprises determining ability of prokineticin-2 receptor antagonist or agonist to modulate one or more circadian rhythm
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Screening for compounds for modulating circadian rhythm, for treating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                      Score 498; DB 7;
Pred. No. 7.4e-47;
Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human prokineticin 1 (PK1), SEQ ID NO:9.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; SEQ ID NO 9; 164pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ¥
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADO05360 standard; protein; 86
                                                                                                                                                                                                                                                                                                                                                                                                         100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          15-APR-2003; 2003WO-US011538.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15-APR-2002; 2002US-0372836P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-JUL-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     86; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (REGC ) UNIV CALIFORNIA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bullock CM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2003-854028/79
                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        function indicia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO2003088904-A2.
                                                                                                                                                                                                                                                                                                                                         Sequence 86 AA;
```

```
mobilisation produced by the interaction of PK2 and a receptor selected from the PK2 receptor (e.g., AD005353) or the PK1 receptor (e.g., AD005353) or the PK1 receptor (e.g., AD005355). The invention is based on the findings that PK2 expression in the suprachiasmatic nucleus (SCN) oscillates in a circadian fashion, and that PK2 receptor activation modulates circadian rhythm in rats. The correction also relates to a method of modulating the circadian rhythm of an animal by administration of a PK2 receptor antagonist or agonist; a composition comprising a detectably labelled PK2 and an isolated mouse PK2 gene promoter (AD005365-AD005369) operably linked to a heterologous nucleotide sequence; use of such constructs to identify modulators of circadian rhythm and for the light regulated expression of a nucleic acid concerned expression of a nucleic acid molecule in an animal; and oligonucleotides at least 17 bases in length which are able to hybridise to the human PK2 promoter AD005365. The concerned of a nucleic acid modulating circadian rhythm modulators may be used in the treatment of circadian rhythm disorders such include PK2 receptor agonists which promote sleep, and PK2 receptor agonists which promote concerned sleep, work-shift syndrome, disorders such as non-24-hour aleep-wake syndrome, advanced sleep phase syndrome, irregular sleep wake concerned sleep phase syndrome, and associated with decreased amplitude, and expected as a seconal affective disorder. They may also be used for modulating concerned beingolar hythoms with a periodicity of more than 24 hours (infardian rhythm) such as daydreaming, urination or hunger, or those with a periodicity (human pk).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               neurogenesis; prokineticin receptor; PKR; neural stem; progenitor cell; neural regeneration; Alzheimer's disease; Parkinson's disease; neurodegenerative disease; prokineticin 1; PKI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 86;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Amino acid sequence of human prokineticin 1 (PK1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%; Score 498; DB 7; 100.0%; Pred. No. 7.4e-47;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0, Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLPNLLCSRFPDGRYRCSMDLKNINF 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADN43256 standard; protein; 86 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           03-OCT-2003; 2003WO-US031626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 04-OCT-2002; 2002US-0416202P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          15-JUL-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity 100.
nes 86; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (REGC ) UNIV CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2004-340794/31.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cheng MY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO2004032851-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 86 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    22-APR-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Zhou Q,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADN43256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              $$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
```

```
The specification describes a method for identifying a compound that modulates neurogenesis. The method comprises providing a compound that modulates prokineticin receptor (PKR) signaling, contacting a neural stem or progenitor cell with the compound, and determining the ability of the compound to modulate neurogenesis. The method is useful for modulating neurogenesis or for identifying compounds that modulate neurogenesis. These are used for both ex vivo or in vivo therapeutic applications where neural regeneration is desirable, such as in Alzheimer's disease or other debilitating neurodegenerative diseases. The present sequence represents human prokineticin 1 (PKI), which may be used in the method of the invention to modulate neurogenesis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           antiangiogenic; antialcoholic; antiarrhythmic; antiarteriosclerotic; anticonvulsant; antidepressant; antidiabetic; anti-HIV; antimanic; antiparkinsonian; cerebroprotective; cytostatic; eating disorders; endocrinic; gastrointestinal; gynecological; hypototic; hypotensive; neuroprotective; nootropic; ophthalmological; tranquilizer; vasotropic; vulnerary; monoclonal antibody; human; ZAQL-1; ligand; hybridoma cell; assay; diagnosis; endométrial cancer; endometriosis; ovulation disorder; digestive disease; angiogenesis; pregnancy; eating disorder; aleeping disorder; seasonal depression; reproductive dysfunction; endocrine disease; senile dementia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 AVITGACERDVQCGAGTCCAISLWLRGLRWCTPLGREGEBCHPGSHKVPFFRKKKHHTCP 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Alzheimer's disease; aging; cerebral circulatory disorder; head trauma; spinal injury; epilepsy; anxiety; depression; schizophrenia; alcoholism; Parkinson's disease; hypertension; arteriosclerosis; arrhythmia; premenstrual disorder syndrome; glaucoma; AIDS; diabetes.
          Identifying a compound that modulates neurogenesis comprises contacting neural stem or progenitor cell with a compound that modulates prokineticin receptor signaling and determining its ability to modulate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 86;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%; Score 498; DB 8; 100.0%; Pred. No. 7.4e-47;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matsumoto H, Horikoshi Y, Masuda Y, Ohtaki T;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADR24003 standard; protein; 86 AA.
                                                                                                            Claim 26; Fig 6B; 103pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human ZAQ-1 ligand protein #1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    22-JAN-2003; 2003JP-00014055.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              21-JAN-2004; 2004WO-JP000498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (TAKE ) TAKEDA CHEM IND LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity 100.
Les 86, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO2004065419-A1.
                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 86 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens.
                                                                          neurogenesis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21-OCT-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       05-AUG-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADR24003;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADR24003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
```

```
The invention relates to human prokineticin 1 and 2 polypeptides that stimulate gastrointestinal smooth muscle contraction and nucleic acid molecules encoding such polypeptides. Polypeptides of the invention are useful for treating disorders involving impaired gastrointestinal motility. They are useful for stimulating gastrointestinal motility in disorders such as irritable bowel syndrome, diabetic gastroparesis, postoperational ileus, chronic constipation and gastrointestinal reflux disease. The prokineticin antagonists are useful for inhibiting disorders inflammatory bowel disorders, infletious diseases and intestinal cancers. The antagonists also act as analgesics. The present
                                                                                                                                    New isolated human prokineticin 1 and 2 polypeptides that stimulate gastrointestinal smooth muscle contraction, useful for improving impaired gastrointestinal motility in irritable bowel syndrome, chronic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2 AVITGACERDVOCGAGTCCAISLMLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human; prokineticin 1; gastrointestinal motility; intestinal cancer; irritable bowel syndrome; gastrointestinal reflux disease; diarrhosa; diabetic gastroparesis; chronic constipation; malabsorptive disorder; inflammatory bowel disorder; analgesic; infectious disease; mutant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New isolated human prokineticin 1 and 2 polypeptides that stimulate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%; Score 498; DB 5;
100.0%; Pred. No. 7.5e-47;
iive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  sequence is human prokineticin 1 mutant protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human prokineticin 1 mutant protein #1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    87
                                                                                                                                                                                                                                                                                                                 Example 1; Page 85-86; 86pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ä.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAE24392 standard; protein; 89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-NOV-2001; 2001WO-US047969.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        03-NOV-2000; 2000US-0245882P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             04-OCT-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    86; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (REGC ) UNIV CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2002-479752/51.
                                                                     WPI; 2002-479752/51
Ehlert FJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 87 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO200236625-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             10-MAY-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Synthetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAE24392;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     mutein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Zhou
Zhou
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAE24392
셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EX B X B X B X B X B X S S X X M M M X X B X C B X C B X B X C B X B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C B X C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                human ZAQL-1 ligand polypeptides, comprising either of two fully defined sequences of 86 amino acids (S1). (I) is ZL1-107 or ZL1-234a produced from hybridoma cells ZL1-107 FERM BP-825 or ZL1-234 FERM BF-8257. (I) is useful for carrying out assay of the polypeptide containing FERM BF-8257. (I) is unvolves reacting (I) with the test-liquid containing the polypeptide or its salt, and measuring the ratio of the polypeptide bound to (I). (I) is useful as a diagnostic or therapeutic agent for diagnosts and/or treatment of diseases uch as endometrial cancer, endometriosis or ovulation disorders, diseases relating to pregnancy, eating disorder, sleeping disorder, seasonal depression, reproductive dysfunction, endocrine disorder, seasonal depression, reproductive dysfunction, endocrine by adjing, cerebral circulatory disorder, head trauma, spinal injury, epilepsy, anxiety, depression, manic depression, schizophrenia,
                                                                                                                                                                                                                                                                                                                                                         The invention relates to a monoclonal antibody (I) having high avidity to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                       monoclonal antibody having high avidity to human ZAQL-1 polypeptide,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     alcoholism, Parkinson's disease, hypertension, arteriosclerosis, arrhythmia, premenstrual disorder syndrome, glaucoma, AIDS, diabetes, etc. This sequence corresponds to a ZAQ-1 ligand used in the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 AVITGACERDVOCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human; prokineticin 1; gastrointestinal motility; intestinal cancer; irritable bowel syndrome; gastrointestinal reflux disease; diarrhoea; diabetic gastroparesis; chronic constipation; malabsorptive disorder; inflammatory bowel disorder; analgesic; infectious disease; mutant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                useful for preventing, treating or diagnosing diseases such as endometrial cancer, ovulation disorders, Alzheimer's disease, AIDS, Parkinson's disease and diabetes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 86;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           100.0%; Score 498; DB 8; 100.0%; Pred. No. 7.4e-47;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human prokineticin 1 mutant protein #4.
                                                                                                                                                                                                                                                                                Claim 1; SEQ ID NO 1; 64pp; Japanese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAE24395 standard; protein; 87 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  03-NOV-2000; 2000US-0245882P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-NOV-2001; 2001WO-US047969
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity 100.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (REGC ) UNIV CALIFORNIA.
                                 WPI; 2004-593431/57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 86 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO200236625-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      04-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10-MAY-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Synthetic.
```

셤 ò 셤

ઠ

AAE24395;

RESULT 11 AAE24395 mutein

Ношо

Query Match

Best Loc Matches

9 61

Gaps

.. 0

Indels

.; 0

```
98US-0088738P.
98US-0088740P.
98US-0088741P.
98US-0088741P.
98US-0088741P.
98US-0088874P.
98US-0088825P.
98US-0088828P.
98US-0088828P.
98US-0088828P.
98US-0088828P.
98US-0088910SP.
98US-008910SP.
98US-008910SP.
98US-008910SP.
98US-0089538P.
                                                                                                                                                                                                                                                                                                                                                                                         9805-0090246E

9805-0090252P

9805-0090324P

9805-0090423P

9805-0090432P

9805-0090444P

9805-0090444P

9805-0090444P

9805-0090444P

9805-0090442P

9805-009044P

9805-0090461P

9805-0090538P

9805-0090538P

9805-0090538P

9805-0090538P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              98US-0091628P.
98US-0091643P.
98US-0091673P.
98US-0091978P.
98US-0091982P.
98US-0091882P.
98US-0093339P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9805-00906808-
9805-0090691P-
9805-0090691P-
9805-0090695P-
9805-0090696P-
9805-0090682P-
9805-0090863P-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     98US-0091360P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               98US-0091486P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           98US-0091519P
98US-0091544P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   98US-0091478P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     98US-0091626P
     98US-0088734P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        09-JUL-1998;
10-JUL-1998;
20-JUL-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                25-JUN-1998;
25-JUN-1998;
25-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      25-JUN-1998;
26-JUN-1998;
26-JUN-1998;
                                                                                                                                                                                                                                                                 17 - 70N - 1998
17 - 70N - 1998
17 - 70N - 1998
18 - 70N - 1998
18 - 70N - 1998
18 - 70N - 1998
19 - 70N - 1998
19 - 70N - 1998
22 - 70N - 1998
22 - 70N - 1998
23 - 70N - 1998
23 - 70N - 1998
23 - 70N - 1998
               10 - JUN - 1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               24-JUN-1998;
24-JUN-1998;
24-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     25-JUN-1998;
25-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             25-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-JUL-1998
                                                                                                                                                     11-JUN-1998;
                                                                                                                                                                              12-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      24-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       24-JUN-1998;
                                                                                                                                                                                                       16-JUN-1998;
                                                                                                                                                                                                                  6-JUN-1998;
                                                                                                                                                                                                                               16-JUN-1998;
                                                                                                                                                                                                                                            17-JUN-1998;
                                                                                                                                                                                                                                                        17-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                24-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             24-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     24-JUN-1998
      ö
                                                                          The invention relates to human prokineticin 1 and 2 polypeptides that stimulate gastrointestinal smooth muscle contraction and nucleic acid molecules encoding such polypeptides. Polypeptides of the invention are useful for treating disorders involving impaired gastrointestinal notility. They are useful for trimulating gastrointestinal motility in disorders such as irritable bowel syndrome, diabetic gastroparesis, operational ileus, chronic constipation and gastrointestinal reflux disease. The prokineticin antagonists are useful for inhibiting gastrointestinal motility in conditions of diarrhoea, malabsorptive disorders, inflammatory bowel disorders, infectious disease and intestinal cancers. The antagonists also act as analgesics. The present intestinal cancers.
gastrointestinal smooth muscle contraction, useful for improving impaired gastrointestinal motility in irritable bowel syndrome, chronic constipation.
                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                              63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Membrane-bound polypeptide; PRO polypeptide; LDL receptor; TIE ligand; pharmaceutical; receptor immunoadhesin; gene mapping.
                                                                                                                                                                                                                                                                                                                     1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEBCHPGSHKVPFFRKKKHHTCP
                                                                                                                                                                                                                                                                                                                                  0; Gaps
                                                                                                                                                                                                                                                                    Query Match 100.0%; Score 498; DB 5; Length 89; Best Local Similarity 100.0%; Pred. No. 7.7e-47; Matches 86; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                    sequence is human prokineticin 1 mutant protein
                                                                                                                                                                                                                                                                                                                                                                         CLPNLLCSRFPDGRYRCSMDLKNINF 86
                                                                                                                                                                                                                                                                                                                                                                                     CLPNLLCSRFPDGRYRCSMDLKNINF 89
                                                         Example 1; Page 84; 86pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAY66745 standard; protein; 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Membrane-bound protein PRO1186.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9805-0087609P.
9805-008759P.
9805-0088021P.
9805-0088028P.
9805-0088028P.
9805-0088028P.
9805-0088028P.
9805-0088028P.
9805-0088028P.
9805-0088028P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99WO-US012252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       98US-0087607P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                Sequence 89 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          03 - JUN - 1998;
04 - JUN - 1998;
05 - JUN - 1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        05-JUN-1998;
05-JUN-1998;
05-JUN-1998;
09-JUN-1998;
10-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO9963088-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                02-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 05-APR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          02-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     02-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 02-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       09-DEC-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAY66745;
                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAY66745
```

g

8

8

. ..

Sequence 105 AA;

g

```
The invention provides membrane-bound PRO polypeptides and polynuclectides encoding them. The PRO sequences of the invention were identified based on extracellular domain homology screening. The PRO sequences have homology with proteins including LDL receptors, TIE ligands and various enzymes. The membrane-bound proteins and receptor molecules are useful as pharmaceutical and diagnostic agents. Receptor immunoadhesins, for instance, can be used as therapeutic agents to block receptor-ligand interactions. The membrane-bound proteins can also be employed for screening of potential peptide or small molecule inhibitors of the relevant receptor/ligand interaction. The PRO encoding sequences are useful as hybridization probes, in chromosome and gene mapping and in the generation of antisense RNA and DNA. PRO nucleic acid sequences will also be useful to the preparation of PRO polypeptides, especially by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Membrane-bound proteins and related nucleotide sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Smith V,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gurney AL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 12; Fig 266; 822pp; English.
98US-0094651P.
98US-0095282P.
98US-0095301P.
98US-0095301P.
98US-0095301P.
98US-0095321P.
98US-0095321P.
98US-0095321P.
98US-0095321P.
98US-0096146P.
98US-0096146P.
98US-0096146P.
98US-0096146P.
98US-0096146P.
98US-009678P.
98US-009678P.
98US-009678P.
98US-009678P.
98US-009678P.
98US-009669P.
98US-009669P.
98US-009689P.
98US-009669P.
98US-009699P.
98US-009699P.
98US-009699P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Goddard A,
                                                                                                                                                                                                                                                                                                                                                                          98US-0097661P.
98US-0097951P.
98US-0097952P.
98US-0097954P.
                                                                                                                                                                                                                                                                                                                                                                                                                          98US-0097955P.
98US-0097971P.
98US-0097974P.
98US-0097978P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         98US-0097986P.
98US-0097986P.
98US-0098014P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             98US-0098525P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99US-0115565P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 recombinant techniques
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2000-072883/06.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Chen J,
Yuan J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N-PSDB; AAZ65091
                                 04-AUG-1998;
04-AUG-1998;
04-AUG-1998;
04-AUG-1998;
04-AUG-1998;
10-AUG-1998;
10-AUG-1998;
                                                                                                                                                                                                     17-Aug-1998;
17-Aug-1998;
17-Aug-1998;
17-Aug-1998;
17-Aug-1998;
17-Aug-1998;
                                                                                                                                                                                                                                                                                                    18-AUG-1998;
18-AUG-1998;
18-AUG-1998;
18-AUG-1998;
19-AUG-1998;
20-AUG-1998;
                                                                                                                                11-AUG-1998;
11-AUG-1998;
                                                                                                                                                        12-AUG-1998;
17-AUG-1998;
                                                                                                                                                                                                                                                                                                                                                                             24-AUG-1998;
                                                                                                                                                                                                                                                                                                                                                                                                             6-AUG-1998
                                                                                                                                                                                                                                                                                                                                                                                                                          26-AUG-1998,
                                                                                                                                                                                17-AUG-1998
17-AUG-1998
                                                                                                                                                                                                                                                                                          18-AUG-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                        26-AUG-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                              26-AUG-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           26-AUG-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              31-AUG-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .2-JAN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Baker K,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Wood WI,
```

Watanabe CK;

```
ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The present sequence represents a human TANGO 266 polypeptide. The specification also describes TANGO 262, TANGO 261, and TANGO 267. TANGO polypeptides can be used to modulate cellular proliferation, modulate cellular differentiation and/or modulate cellular adhesion. The proteins can be used to treat any von Willebrand factorablesion. The proteins can be used to treat any von Willebrand factorablesion. The proteins and provide matrix structuring, cellular adhesion, and cell trafficking and/or migration, modulate cellular interactions, modulate cell adhesion in proliferative disorders, such as
                                                                                                                                                                                                                                                                                                                                                                                                                                          hematopoietic associated disease; atelectasis; pulmonary congestion; oedema; emphysema; chronic bronchitis; bronchial asthma; bronchiectasis; intestinal disorder; spleen associated disease; renal disorder; cardiovascular disorder; ischemic heart disease; hydrocephalus; brain herniation; latrogenic disease; inflammation; meningitis; Alzheimer's Disease; cerebral toxoplasmosis; Parkinson's disease; multiple sclerosis; hydrocephalus; encephalitis; hepatic disorder.
                                                                     9
                                                                                                   79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Novel human and murine secreted proteins designated TANGO 216, 261, 262, 266 and 267 useful as modulating agents of cellular processes, e.g. for
                                                                   1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                       AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                              TANGO 266; TANGO 216; TANGO 261; TANGO 262; TANGO 267; cellular proliferation; cellular differentiation; cellular adhesion; von Willebrand factor-associated disorder; cell trafficking; cancer;
                                   .
0
Length 105;
                                   Indels
                                     .
0
100.0%; Score 498; DB 3; 100.0%; Pred. No. 9.1e-47;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Fraber CC;
                                 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1. .19
/note= "signal sequence"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /note= "mature protein"
                                                                                                                                                          80 CLPNLLCSRFPDGRYRCSMDLKNINF 105
                                                                                                                                     98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Barnes TM, Holtzman DA, Sharp JD,
                                                                                                                                     CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                          AAB18453 standard; protein; 105 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 8; Fig 14; 175pp; English.
                                   ö
                                                                                                                                                                                                                                                                                                                                                               human TANGO 266 polypeptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-MAR-2000; 2000WO-US005226.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99US-0122458P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (MILL-) MILLENNIUM PHARM INC
                                                                                                                                                                                                                                                                                                                            15-JAN-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .106
                                   86; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2000-579269/54.
 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N-PSDB; AAA75155.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     treating cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO200052022-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-MAR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              08-SEP-2000.
                                                                                                                                                                                                                                                                                              AAB18453;
                                                                                                     20
                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Protein
                                   Matches
                                                                                                                                                                                                                        RESULT 14
AAB18453
                                                                                                                                                                                                                                                                              ð
                                                                                                   셤
                                                                                                                                     ò
                                                                                                                                                                   g
```

```
ö
cancer, modulate the proliferation, differentiation, and/or function of cells that appear in the bone marrow, and leukocytes, treat bone marrow, blood and hematropoietic associated diseases and disorders, atelectasis, pulmonary congestion or oedema, emphysema, chronic bronchitis, bronchial asthma and bronchiectasis, intestinal disorders, spleen associated diseases, modulate renal disorders, treat cardiovascular disorders such as ischemic heart disease, modulate the proliferation, differentiation, and/or function of bone and cartilage cells and to treat bone and/or cartilage associated diseases or disorder. They may also be used to treat disorders associated with the ovaries, cerebral oedema, hydrocephalus, brain herniations, iatrogenic disease, inflammations, bacterial and viral meningitis, Alzheimer's Disease, cerebral toxoplasmosis, Parkinson's encephalitis, and treat hepatic disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human, G protein-coupled receptor protein; nootropic; neuroprotective; hypotensive; orexigenic; antiallergic; antianginal; antimicrobial; antibacterial; gene therapy; Alzheimer's disease; hypertension; anorexia; allergy; angina pectoris; infection; MRSA; multiple resistant Staphylococcus aureus.
                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                79
                                                                                                                                                                                                                                                                                                                                                          1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                      ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human G protein-coupled receptor protein-related sequence #4.
                                                                                                                                                                                                                                                                       Length 105;
                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                       100.0%; Score 498; DB 3; 100.0%; Pred. No. 9.1e-47;
                                                                                                                                                                                                                                                                                                       0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                       CLPNLLCSRFPDGRYRCSMDLKNINF 105
                                                                                                                                                                                                                                                                                                                                                                                                    86
                                                                                                                                                                                                                                                                                                                                                                                                    61 CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAB70148 standard; protein; 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 24-AUG-2000; 2000WO-JP005685
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99JP-00241531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                18-JUL-2000; 2000JP-00217474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (TAKE ) TAKEDA CHEM IND LID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                         Local Similarity 100.
nes 86; Conservative
                                                                                                                                                                                                                                             Sequence 105 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO200116309-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   27-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             29-MAY-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   08-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAB70148;
                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAB70148
                                                                                                                                                                                                                                                                                              Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                   g
           8
```

The present sequence is provided in a specification relating to a protein or its salt with an amino acid sequence identical or substantially similar to a fully defined sequence of 393 amino acids as given in the

Example 4; Page 113; 119pp; Japanese.

anorexia.

hypertension and

New human brain-originated guanosine triphosphate protein-coupled receptor protein, its salt and encoded gene, useful in (gene) diagnosis and development of preventives and remedies for Alzheimer's disease,

Shintani Y;

Terao Y,

Watanabe T,

WPI; 2001-226684/23.

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The present sequence represents a human Zven2 polypeptide. The specification also describes Zven1. The Zven1 gene is present on chromosome 3p21.1-3p14.3. The specification also describes Zven2 chromosome 3p21.1-3p14.3. The specification also describes Zven2 zven polynuclectides and polypeptides are useful in veterinary and human therapeutics, for treating small cell cancer of the lung, to promote wound healing, to prevent or to treat an adverse reaction of the skin to a skin-sensitizing agent or a skin-irritating agent, to stimulate the immune system of an immunocompromised individual, as antitumour agents, as antiinflammatory agents to regulate regeneration or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Zvenl; 3p21.1; 3p14.3; Zven2; small cell lung cancer; wound healing; antitumour; antilnflammatory; necrosis; tissue growth; digestive enzyme; cellular differentiation; gastrointestinal cell contractility; gastrointestinal motility; diarrhoea;
specification. The protein is useful in gene diagnosis and development of preventives and remedies for diseases associated with dysfunction of the protein, e.g. Alzheimer's disease, hypertension, anorexis, allergy, angina pectoris and infections (e.g. multiple resistant Staphylococcus aureus. The proteins and DNA encoding the proteins are also useful for the treatment of these diseases by gene therapy
                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Novel isolated Zven polypeptide useful for inhibiting proliferation of
tumor cells, for treating small cell cancer of lung, to promote wound
                                                                                                                                                                                                                                                                  20 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                           1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                          .;
0
                                                                                                                                                                     Length 105;
                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             tumor cells, for treating small cell cancer of lung, to
healing, and for treating Crohn's disease and diarrhea.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Amino acid sequence of a human Zven2 polypeptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Thompson
                                                                                                                                                                                                              .
0
                                                                                                                                                                     100.0%; Score 498; DB 4;
100.0%; Pred. No. 9.1e-47;
iive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                              80 CLPNLLCSRFPDGRYRCSMDLKNINF 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Whitmore TE,
                                                                                                                                                                                                                                                                                                                         61 CLPNLLCSRFPDGRYRCSMDLKNINF 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAB68427 standard; protein; 105 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 27; Page 4; 98pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             16-NOV-1999; 99US-00442164.
25-FEB-2000; 2000US-00511879.
19-APR-2000; 2000US-00552203.
07-JUN-2000; 2000US-0210332P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            L4-NOV-2000; 2000WO-US031278.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bishop PD,
                                                                                                                                                                                                                86; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (ZYMO ) ZYMOGENETICS INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2001-355611/37.
                                                                                                                                                                                            Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N-PSDB; AAF85427.
                                                                                                                                      Sequence 105 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Crohn's disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO200136465-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sheppard PO,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       23-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      25-MAY-2001,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAB68427;
                                                                                                                                                                         Query Match
Best Local S
                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 16
                                                                                                                                                                                                                                                                                                                                                                                                                                               AAB68427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8X88888X8
                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                              ⋧
```

```
셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  XXXXXX
                                                                                                           ö
                                                                                                                                                                                                                                                                                                      Human secretory and transmembrane; PRO; mammalian; cancer; lung; breast; prostate; cervical; tumour necrosis factor-alpha; TNF-alpha; cartilage; ear; proliferation; glucose; free fatty acid; skeletal muscle; adipocyte; A-peptide; factor VIIA; gene therapy.
                                                                                                                                         20 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP 79
         cellular
      developmental arrest, to inhibit proliferation of tumour cells, cellular differentiation and necrosis, to treat disorders associated with gastrointestinal cell contractility, secretion of digestive enzymes and acids, gastrointestinal motility, recruitment of digestive enzymes, inflammation, and conditions associated with hypermotility such as diarrhoea and Crohn's disease
                                                                                                                             1 AVITGACERDVOCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
remodeling of tissue, as agents to modulate necrosis or tissue growth
                                                                                                           Gaps
                                                                                                           ;
0
                                                                                        100.0%; Score 498; DB 4; Length 105; 100.0%; Pred. No. 9.1e-47; ive 0; Mismatches 0; Indels
                                                                                                                                                                          80 CLPNLLCSRFPDGRYRCSMDLKNINF 105
                                                                                                                                                                 86
                                                                                                                                                                61 CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                       Human PRO1186 polypeptide sequence.
                                                                                                                                                                                                                                AAU12406 standard; protein; 105 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99WO-US030095
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000WO-US004414
                                                                                                                                                                                                                                                                                                                                                                                                                                                               99WO-US028565
99US-0170262P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99WO-US031274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2000WO-US000219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000WO-US000376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2000WO-US004341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2000WO-US004914
                                                                                                                                                                                                                                                                                                                                                                                                          2000WO-US032678
                                                                                                                                                                                                                                                                                                                                                                                                                                     99WO-US028634
99WO-US028551
                                                                                                                                                                                                                                                                                                                                                                                                                                                        99WO-US028564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99WO-US030999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99WO-US031243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2000WO-US000277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000WO-US003565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000WO-US004342
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2000WO-US005004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2000WO-US005601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2000WO-US007532
                                                                                                                                                                                                                                                                    (first entry)
                                                                                                Local Similarity 100.
Les 86; Conservative
                                                                        Sequence 105 AA;
                                                                                                                                                                                                                                                                                                                                                                       WO200140466-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 18-FEB-2000;
18-FEB-2000;
22-FEB-2000;
24-FEB-2000;
24-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-MAR-2000;
02-MAR-2000;
03-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                          01-DEC-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                16-DEC-1999;
20-DEC-1999;
20-DEC-1999;
30-DEC-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              05-JAN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 06-JAN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21-MAR-2000;
                                                                                                                                                                                                                                                                    24-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                               02-DEC-1999
                                                                                                                                                                                                                                                                                                                                                                                         07-JUN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                              02-DEC-1999
                                                                                                                                                                                                                                                  AAU12406;
                                                                                          Query Match
                                                                                                   Best Loca
Matches
                                                                                                                                                                                                              RESULT 17
                                                                                                                                                                                                                       AAU12406
88888888888
                                                                                                                                                                ò
                                                                                                                                                                                                                                         원
                                                                                                                                                                                  g
```

```
AAU1212-AAU12446 represent novel human secretory and transmembrane PRO polypeptides. The PRO polypeptides are useful to detect other PRO polypeptides, to link bioactive molecules to cells expressing PRO polypeptides, to modulate biological activities of cells expressing PRO polypeptides, and to detect the presence of mammalian lung, colon, polypeptides, and to detect the presence of mammalian lung, colon, polypeptide expression in a cell sample to that in a control sample. Some of the 275 sequences are also useful to etimulate the release of tumour necrosis factor-alpha (TNF-alpha) from human blood, the proliferation or differentiation of chondrocytes, the proliferation or gene expression in proliferation of inner ear utricular supporting cells or of T-proliferation of inner ear utricular supporting cells or of T-proliferation of endothelial cells. Some of the PRO polypeptides may modulate glucose or free fatty acid uptake by skeletal muscle cells or by adipocytes; or inhibit binding of A-peptide to factor VIIA. The PRO polypeptides can be used in assays to identify molecules involved in binding interactions. The polymoleotides encoding PRO polypeptides can be used to generate probes, antisense RNA/DNA, transgenic or knock out animals and can be used in gene therapy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Isolated , secretory and transmembrane PRO polypeptide used to detect other PRO polypeptides, link bioactive molecules to cells expressing PRO polypeptides, and detect the presence of mammalian tumors e.g. lung,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEBCHPGSHKVPFFRKKKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gao
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Beresini M, Deforge L, Desnoyers L, Filvaroff E, G
HB, Goddard A, Godowski PJ, Gurney AL, Sherwood S;
Stewart TA, Tumas D, Watanabe CK, Wood WI, Zhang Z;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%; Score 498; DB 4; Length 105; 100.0%; Pred. No. 9.1e-47; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   80 CLPNLLCSRFPDGRYRCSMDLKNINF 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 CLPNLLCSRFPDGRYRCSMDLKNINF 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 12; Fig 470; 813pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAB53096 standard; protein; 105
17-MAY-2000; 2000WO-US013705.
22-MAY-2000; 2000WO-US014042.
30-MAY-2000; 2000WO-US014941.
02-JUN-2000; 2000WO-US015264.
05-JUN-2000; 2000US-0209832P.
                                                                                                                                                                                  28-JUL-2000; 2000WO-US020710.
11-AUG-2000; 2000WO-US022031.
                                                                                                                                                                                                                                                         23-AUG-2000; 2000WO-US023522.
24-AUG-2000; 2000WO-US023328.
08-NOV-2000; 2000WO-US030952.
10-NOV-2000; 2000WO-US030953.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        breast, prostate, cervical.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             28-FEB-2001 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          86; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                            (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Stewart TA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2001-408281/43.
N-PSDB; AAS21478.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 105 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gerritsen Smith V,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Baker KP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAB53096;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAB53096
```

ö

Human angiogenesis-associated protein PRO1186, SEQ ID NO:165.

Human; angiogenesis-associated protein; PRO; endothelial cell growth;

cardiac hypertrophy; cardiovascular disorder; endothelial disorder;

angiogenic disorder; atherosclerosis; osteoporosis; hypertension;

myocardial infarction; diabetic retinopathy; rheumatoid arthritis;

Crohn's disease; psoriasis; endometriosis; ulcer; wound healing; cancer;

gene therapy; transgenic animal.

Homo sapiens.

WO200053753-A2.

14-SEP-2000.

05-JAN-2000; 2000WO-US000219.

99US-0123957P 99US-0144758P 99WO-US028313 99WO-US028409 99WO-US012252 99US-0141037P 99WO-US023089 99WO-US021090 99WO-US028565 99WO-US020111 99WO-US020594 99WO-US021547 99WO-US028564 20-JUL-1999; 26-JUL-1999; 01-SEP-1999; 08-SEP-1999 999 23 - JUN - 1999 15-SEP-1999 999 30-NOV-1999 02-DEC-1999 02-DEC-1999 30-NOV-1 15-SEP-1

(GETH ) GENENTECH INC.

Ashkenazi AJ, Baker KP, Ferrara N, Gerber H, Goddard A; Godowski PJ, Gurney AL, Hillan KJ, Kuo SS, Mark MR, Marsters SA; Paoni NF, Pitti RM, Watanabe CK, Williams PM, Wood WI;

WPI; 2001-090793/10. N-PSDB; AAC97496. New isolated nucleic acid for producing a PRO polypeptide, analyzing genetic disorders and treating cardiovascular, endothelial or angiogenic disorders, such as atherosclerosis, wounds or cancer.

Claim 69; Fig 66; 293pp; English.

The invention relates to novel human angiogenesis-associated proteins designated PRO proteins (AABS3064-BS3097), and to nucleic acids encoding to the invention also relates to vectors and host cells comprising a PRO nucleic acid, the recombinant production of a PRO protein, PRO antibodies specific for a PRO protein, fusion proteins compounds which inhibit the expression of a PRO gene. The invention additionally encompasses methods of identifying modulators of PRO capression or activity; diagnosing a cardiovascular, endothelial or angiogenic disorder, or a susceptibility to such a disorder by detecting mutations in a PRO gene, or the expression level of a PRO gene within a cardiovascular tissue; treating a cardiovascular, endothelial or angiogenic disorder via the administration of a PRO protein, propriet or particular tissue; treating a retroviral gene therapy vector comprising a compound of a propertion of a PRO protein, propriet or an agonist; a retroviral gene therapy vector comprising a CRO mucleic acid; and methods of inhibiting or stimulating endothelial cell growth, cardiac hypertrophy or PRO-induced angiogenesis via the administration of a PRO protein, an agonist PRO proteins, PRO cucleic acids, PRO proteins, antibodies adainst PRO proteins, proceeding and propression disorders, such as a therosclerosis, osteoporosis, myocardial infarction, hypertension, cathorneriosis, ulcers, wounds, cancer, Alzheimer's disease, Huntington's endometriosis, ulcers, cancer, Alzheimer's disease, Huntington's

```
ö
disease, or stroke. PRO mucleic acids are additionally useful in the recombinant production of PRO proteins, as hybridisation probes to screen libraries to isolate cDNAs with sequence identity to PRO proteins, to map genes encoding PRO proteins, to analyse genetic disorders, and in gene therapy. PRO nucleic acids can also be used to produce transgenic animals useful for the development and screening of potential therapeutic agents. The present sequence represents a PRO protein of the invention
                                                                                                                                                                                  20 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP 79
                                                                                                                                                                                                                                                                                                                                                                                                       transmembrane protein; PRO; cytostatic; cell death; mapping; gene mapping; tissue typing;
                                                                                                                                                                       1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                Gaps
                                                                                                                                                .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eaton DL;
                                                                                                                         Length 105;
                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                  Human PRO1186 (UNQ600) protein sequence SEQ ID NO:371.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Botstein D, Desnoyers L,
                                                                                                                       100.0%; Score 498; DB 4;
100.0%; Pred. No. 9.1e-47;
ive 0; Mismatches 0;
                                                                                                                                                                                                                        86
                                                                                                                                                                                                                                      CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                        CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                                            AAB65268 standard; protein; 105 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99US-0141037P.
99US-0143048P.
99US-0144758P.
99US-0145698P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99US-0146222P.
99US-0149396P.
99WO-US021090.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       330911.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99WO-US021547.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99WO-US030095
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000WO-US000219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000WO-US000376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99WO-US028313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99WO-US028301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000WO-US004414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000WO-US004914
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2000WO-US006884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000WO-US007377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  30-MAR-2000; 2000WO-US008439
                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ashkenazi AJ, Baker KP,
                                                                                                                                                 86; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (GETH ) GENENTECH INC
                                                                                                                                                                                                                                                                                                                                                                                                            Human; secreted and
                                                                                                                                                                                                                                                                                                                                                                                                                         chromosomal
                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                   diagnostic assay
                                                                                                  Sequence 105 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO200073454-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          11-FEB-2000;
18-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  05-JAN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                06-JAN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         16-DEC-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20-DEC-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      08-OCT-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   30-NOV-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DEC-1999
                                                                                                                                                                                                                                                                                                                                                            02-APR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           15-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             07-DEC-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       23-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            26-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 17-AUG-1999
                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                  80
                                                                                                                            Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                     AAB65268;
                                                                                                                                                                                                                                                                                                                                                                                                                          cancer;
                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                      RESULT 19
                                                                                                                                                                                                                                                                                                 AAB65268
                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                  d
       888888888888
                                                                                                                                                                            8
```

us-10-811-328-3.rag

24-FEB-2000; 2000WO-US004914.

WO200075327-A1

14-DEC-2000.

```
The present invention describes human secreted and transmembrane PRO proteins. The PRO proteins have cytostatic activity. The PRO proteins can be used for targeted delivery of bloactive molecules, such as toxins, radiolabels or antibodies, that cause cell death. PRO nucleotide sequences, and their fragments, can be used as hybridisation probes, in chromosomal and gene mapping, and in the generation of anti-sense RNA and DNA. They may also be used to produce transgenic animals which are used and protein sequence can be used for tissue typing and in treating cancer. Anti-PRO antibodies can be used in diagnostic assays. AAF4470 to AAF4470 represent PCR primers and hybridisation probes used in the isolation of human PRO sequences. AAF44687 to AAF44470 sequences, and hopping and in the AAF64270 to AAF64500 represent human PRO polynucleotide and protein sequences and hybridisation probes used in the in the exemplification of the present invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                           PRO polynucleotides used to produce polypeptides used to target bioactive molecules such as toxins, radiolabels or antibodies, to specific cells, to cause targeted cell death.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20 AVITGACERDVQCGAGICCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP 79
 Godowski PJ;
Paoni NF;
Wood WI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRO1186; PRO184; neoplastic; cell growth; tumour; cancer; breast; ovarian; renal; colorectal; uterine; prostate; lung; melanoma; central nervous system; leukemia; antitumor; cytostatic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ·,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "tyrosine kinase phosphorylation site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%; Score 498; DB 4; Length 105; 100.0%; Pred. No. 9.1e-47;
 Goddard A,
MA, Pan J,
Williams PM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "N-myristoylation site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .52
:e= "N-myristoylation site"
Gerber H, Gerritsen ME,
AL, Kljavin IJ, Napier
Tumas D, Watanabe CK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "N-myristoylation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "signal sequence"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLPNLLCSRFPDGRYRCSMDLKNINF 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         'note= "mature protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAB48175 standard; protein; 105 AA
                                                                                                                                                                                         Fig 266; 935pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 . .39
/note= "'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human PRO1186 polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  88. .95
/note= '
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1. .19
/note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     'note=
 Ferrara N, Fong S, G
Grimaldi CJ, Gurney A
Roy MA, Stewart TA,
Zhang Z;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity
                                                                              WPI; 2001-032160/04
                                                                                               N-PSDB; AAF44237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 105 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  02-APR-2001
                                                                                                                                                                                         Claim 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAB48175;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAB4817
   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ଚ
```

```
for the inhibition of neoplastic cell growth and for treating tumours. The PRO polypeptides can be expressed by standard recombinant methodology. The PRO polypeptides or their agonists are useful for inhibition of neoplastic cell growth and for treating tumours, cancers such as breast, ovarian, renal, colorectal, uterine, prostate, lung, bladder or central nervous system cancers or melanoma and leukemia. The present sequence represents the human PRO1186 polypeptide (encoding cDNA clone ID: DNA60621-1516)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       79
                                                                                                                                                                                                                                                                                       ø
                                                                                                                                                                                                                                                                                                                                                                 The invention provides PRO1186 and PRO184 polypetides that can be used
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20 AVITGACERDVQCGAGICCAISLWLRGLRWCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKKKHHTCP
                                                                                                                                                                                                                                                                                   Compositions for inhibiting neoplastic cell growth and treating tumor cancer, comprises novel PRO1186 or PRO184 polypeptides or its agonist
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            immunosuppressive; cytostatic; neuroprotective; gastrointestinal;
virucide; antibacterial; anti-HIV; human immunodeficiency virus;
antiinfertility; cerebroprotective; nootropic; antiulcer; antifungal;
anticonvulsant; tranquilizer; neuroleptic; vasotropic; gynecological;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Extracellular signaling molecule; EXCS; anti-inflammatory; human;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human extracellular signaling molecule (EXCS) (ID 2006548CD1).
                                                                                                                                                                                                       Wood WI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 105;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                       Watanabe CK,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          100.0%; Score 498; DB 4;
100.0%; Pred. No. 9.1e-47;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             keratolytic; protozoacide; gene therapy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     80 CLPNLLCSRFPDGRYRCSMDLKNINF 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        86
                                                                                                                                                                                                       Napier MA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ą
                                                                                                                                                                                                                                                                                                                                  Claim 31; Fig 2; 104pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAB48067 standard; protein; 105
                                                                                                         02-JUN-1999; 99WO-US012252.
26-JUL-1999; 99US-0145698P.
05-JAN-2000; 2000WO-US000219.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     19-MAY-2000; 2000WO-US013975
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                       Ashkenazi AJ, Hillan KJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity 100.
Matches 86; Conservative
                                                                                                                                                                        (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                     WPI; 2001-071078/08.
                                                                                                                                                                                                                                                      N-PSDB; AAC84469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 105 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO200070049-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                19-MAR-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      23-NOV-2000.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAB48067;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAB48067
d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
```

.; 0

```
Endocrine gland-derived vascular endothelial growth factor; EG-VEGF; human; cell proliferation; cell migration; fenestration; cell differentiation; angiogenesis; chemotaxis; endocrine; infertility; fertility; polycystic ovary syndrome; ovarian cyst; cancer; cytostatic; diagnosis; therapy.
The invention provides human extracellular signaling molecules (EXCS) and polymuclectides which identify and encode EXCS. EXCS can be expressed by standard recombinant methodology. The amino acid and nucleic acid sequences of EXCS are useful for diagnosing, treating and preventing infections and gastrointestinal foppic ulcer, dysphagia, pancreatitis, infections and gastrointestinal (beptic ulcer, dysphagia, pancreatitis), cerevological (e.g. epilepsy, ischemic cerebrovascular disease, stroke), reproductive (infertility, ovulatory defects, endometriosis), ancreating cancers (of the breast, adrenal gland, bone). They may also be used to treat fatal familial insomnia, nutritional and metabolic diseases of the nervous system, myopathies, mental disorders (anxiety, schizophrenia, mood), as well as infections caused by parasites (malaria, leishmania, trypanosoma), viral (adenovirus, coronavirus, flavivirus), bacterial (e.g. pneumococcus, staphylococcus, bacillus), and fungal (aspergillus, blastomyces, dermatophytes) agents. The nucleic acids, polypeptides, antagonists, agonists, pharmaceutical compositions, and antibodies may also be used for treating or preventing disorders associated with increased or decreased expression or activity of EXCS. EXCS on the parasity of EXCS. EXCS on the parasity of EXCS. For the parasity of EXCS on the except of the expect on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     the disease, to determine presence or excess expression of EXCS, to monitor regulation of EXCS levels during therapeutic intervention, to detect the presence of associated disorders, as targets in microarray, to generate hybridization probes, and to detect differences in gene sequences among normal, carrier or affected individuals. Antibodies may also be used in diagnoshing disorders, in monitoring patients being treated with EXCS agonists, antagonists or inhibitors. Sequences AAB48057-B48082 represent the EXCS of the invention
                                                                                                                                                                                                                                                                                                                           New human extracellular signaling nucleic acids and polypeptides useful for diagnosing, treating and preventing infections and gastrointestinal, neurological, reproductive, and autoimmune/inflammatory disorders.
                                                                                                                                                                                Baughn MR;
                                                                                                                                                                                Bandman O,
                                                                                                                                                                                Lal P, Burford N,
                                                                                                                                                                                                          Patterson C;
                                                                                                                                                                                                                                                                                                                                                                                                                                       Claim 1; Page 89; 114pp; English
                               99US-0144270P.
99US-0146700P.
99US-0157508P.
          99US-0134949P
                                                                                                                                (INCY-) INCYTE GENOMICS INC
                                                                                                                                                                                                          Lu DAM,
                                                                                                                                                                                                                                                            2001-025021/03.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 105 AA;
                                                                                                                                                                                     Yue H,
                                                                                                                                                                                                                                                            WPI; 2001-025021,
N-PSDB; AAC84303
                                                         30-JUL-1999;
          19-MAY-1999;
                                    15-JUL-1999;
                                                                                                                                                                                                          Azimzaı Y,
                                                                                                                                                                                  Tang YT,
```

'note= "N-myristoylated" /note≈ "N-myristoylated"

Modified-site Modified-site

Ното варіепв

Peptide Protein Modified-site

Wood WI;

Ferrara N, Watanabe C, (GETH ) GENENTECH INC.

23-JUN-2000; 2000US-0213637P. 07-SEP-2000; 2000US-0230978P. 01-DEC-2000; 2000WO-US032678.

22-JUN-2001; 2001WO-US020116

WO200200711-A2

03-JAN-2002

note= "N-myristoylated" 20. 105 /label= Mature\_protein l. .19 /label= Signal\_peptide Location/Qualifiers

```
ö
                                                                               1 AVITGAÇERDVÇÇGAĞTÇÇALSLMIRGIRMCTPLGREGEBECHPGSHKVPFFRKKKHHTÇP 60
                                                                                                     20 AVITGACERDVQCGAGTCCAISLMLRGLRMCTPLGREGEBCHPGSHKVPFPRKKKHHTCP 79
                                             0; Gaps
Length 105;
                                           Indels
  100.0%; Score 498; DB 4;
100.0%; Pred. No. 9.1e-47;
iive 0; Mismatches 0;
                                                                                                                                                                                       80 CLPNLLCSRFPDGRYRCSMDLKNINF 105
                                                                                                                                                                    86
                                                                                                                                                                    61 CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                                             AAM50773 standard; protein; 105 AA
                           Best Local Similarity 100.
Matches 86, Conservative
```

Query Match

The present sequence is that of a novel, tissue-restricted, growth and differentiation factor termed endocrine gland-derived vascular conditions factor termed endocrine gland-derived vascular endothelial growth factor (EG-VEGF). The sequence is predicted from the covarian tissue library. EG-VEGF induces proliferation, migration and covarian tissue library. EG-VEGF induces proliferation, migration and covarian tissue library. EG-VEGF induces proliferation, migration and convariant issue library. EG-VEGF induces proliferation, migration and condition as no effect on a variety of other endothelial and nonconductual cell types tested. The EG-VEGF precursor has a predicted conducthelial cell types tested. The EG-VEGF precursor has a predicted conduction in a flat fold with finger-like projections that act as interactive surfaces. 80% Homology and 63% identity is shown to venom contenting in a flat fold with finger-like projections that act as interactive surfaces. 80% Homology and 63% identity is shown to venom contenting and antagonists, can be used in the treatment of conditions associated with homono-producing tissue, especially ovarian condition may be polycystic ovary syndrome, cancer, especially ovarian condition may be polycystic ovary syndrome, cancer, especially ovarian concer, testicular cancer, prostate cancer or uterine cancer, or ovarian cancer, testicular cancer, prostate cancer or uterine cancer, or ovarian cancer, testicular cancer, prostate cancer or uterine cancer, or ovarian cancer, antagonist to inhibit follicle maturation or ovalation. Methods are claimed for identifying compounds that modulate EG-VEGF cancer or antagonist to inhibit follicle maturation or ovalation. Contained for identifying compounds that modulate EG-VEGF activity. New endocrine gland-vascular endothelial growth factor (EG-VEGF) polypeptides, agonists and antagonists, useful for regulating fertility, and for treating cancer of the reproductive organs, e.g. ovarian or proliferation or survival, to induce chemotaxis, angiogenesis, or differentiation, or to induce endothelial cell proliferation Claim 12; Fig 2; 133pp; English. WPI; 2002-130882/17. N-PSDB; ABA91567 prostate cancer.

Sequence 105 AA;

Endocrine gland-derived vascular endothelial growth factor.

23-APR-2002 (first entry)

AAM50773;

RESULT 22

a

셤 ઠ

ò

```
The invention relates to one hundred and twenty two nucleic acids encoding PRO polypeptides. The sequences of the 122 PRO polynucleotides encode human secreted proteins. The PRO nucleic acids, polypeptides, agonists and antagonists are useful for treating a PRO related disorder. The PRO polypeptides are useful for diagnosing tumours, especially lung cancer, colon cancer, breast tumour, prostate tumour, rectal tumour or liver tumour. The PRO polypeptides are useful for stimulating the proliferation of, or gene expression, in pericyte cells, for stimulating the stimulating the release of tumour necrosis factor-alpha from human blood, for stimulating the release of tumour necrosis factor-alpha from human blood, for stimulating or inhibiting the proliferation of normal human dermal fibroblast cells. The PRO polypeptide may also be used as molecular weight markers and for tissue typing. The PRO nucleic acids have applications in molecular biology, including use as hybridisation probes, and in chromosome and gene mapping. AAU83592-AAU83713 represent human PRO protein sequences of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AVITGACERDVQCGAGTCCAISLMLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP 79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human; angiogenesis, cardiant; cytostatic; antiangiogenic; hypotensive; vulnerary; antiarteriosclerotic; PRO agnosist; PRO antagonist; trauma; gene therapy; cardiovascular disorder; endothelial disorder; cancer; angiogenic disorder; cardiac hypertrophy; atherosclerosis; hypertension; age-related macular degeneration; arterial restenosis; angina; themacoid arthritis; mycoardial infarction; thrombophlebitis; tumour angiogenesis; breast carcinoma; liver carcinoma; wound healing; chromosome mapping; gene mapping.
as lung cancer, colon cancer, breast tumor, prostate tumor, rectal tumor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                              100.0%; Score 498; DB 5; Length 105; 100.0%; Pred. No. 9.1e-47; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human PRO1186 protein sequence SEQ ID NO:172.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61 CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ABB84902 standard; protein; 105 AA.
                                                Claim 11; Fig 166; 359pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 23-JUN-2000; 2000US-0213637P.
20-JUL-2000; 2000US-0219556P.
25-JUL-2000; 2000US-0220624P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2000US-0220664P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              28-JUL-2000; 2000WO-US020710.
02-AUG-2000; 2000US-0222695P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               17-AUG-2000; 2000US-00643657.
23-AUG-2000; 2000WO-US023522.
24-AUG-2000; 2000WO-US023328.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20-JUN-2001; 2001WO-US019692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  16-MAY-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Similarity 100.
Matches 86; Conservative
                                                                                                                                                                                                                                                                                                                                                                 Sequence 105 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO200200690-A2.
                 or liver tumor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  25-JUL-2000;
28-JUL-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    03-JAN-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  80
                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 2
ABB84902
 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                One hundred and twenty two nucleic acids encoding PRO polypeptides, useful for treating a PRO related disorder and for diagnosing tumors such
                                                                                                               20 AVITGACERDVOCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP 79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gerritsen ME, Goddard A, Godowski PJ;
Smith V, Stephan JF, Watanabe CK, Wood WI;
                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                Human; secreted protein; PRO; tumour; lung cancer; colon cancer;
breast cancer; prostate tumour; rectal tumour; liver tumour;
pericyte cell prolliferation; chondrocyte cell proliferation;
tumour necrosis factor-alpha.
                                                 ..
0
               Length 105;
                                                Indels
                                                 ö
             ; Score 498; DB 5;
; Pred. No. 9.1e-47;
0; Mismatches 0;
                                                                                                                                                                    80 CLPNLLCSRFPDGRYRCSMDLKNINF 105
                                                                                                                                                 61 CLPNLLCSRFPDGRYRCSMDLKNINF 86
                                                                                                                                                                                                                                                                 AAU83674 standard; protein; 105 AA.
                                                                                                                                                                                                                                                                                                                                                                   Human PRO protein, Seg ID No 166.
               100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000US-0220664P.
2000US-0220666P.
2000US-0220893P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2000WO-US023328.
2000WO-US030873.
2000US-0253646P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-DEC-2000; 2000WO-US032678.
20-DEC-2000; 2000US-00747259.
20-DEC-2000; 2000WO-US034956.
28-FEB-2001; 2001WO-US036520.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-MAR-2001; 2001WO-US006666.
22-MAR-2001; 2001US-00816744.
10-MAY-2001; 2001US-00854208.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  28-JUL-2000; 2000WO-US020710.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2000US-0220605P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   29-JUN-2001; 2001WO-US021066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000WO-US023522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      25-MAY-2001; 2001WO-US017092
                                                                                                                                                                                                                                                                                                                                 (first entry)
     Query Match
Best Local Similarity 100.0
....hes 86; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Baker KP, Desnoyers L,
Grimaldi JC, Gurney AL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2002-172001/22.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO200208288-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 24-AUG-2000; 2
10-NOV-2000; 2
28-NOV-2000; 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens.
                                                                                                                                                                                                                                                                                                                                 08-MAY-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  31-JAN-2002
                                                                                                                                                                                                                                                                                                  AAU83674:
                                                                                                                                                                                                                                                                    g
                                                                                                                                                 ઠ
```

ö 9

Gaps

. 0

```
AA015527 standard; protein; 105 AA
                                                                                                                                                                                                                                                                                       Yamada T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ABB06308;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20
                             AA015527;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ABB06308
        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ABBBB5003. The PRO proteins and polymucleotides have cardiant, cytostatic, antiangiogenic, hypotensive, vulnerary and antiarteriosclerotic artivities, and can be used in gene therapy. The PRO polymucleotides, proteins, agonists and antagonists are useful for treating or diagnosing a cardiovascular, endothelial or angiogenic disorder in a mammal, e.g. cardiac hypertrophy, trauma, cancer, age-related macular degeneration, atherosclerosis, hypertension, arterial restenosis, rheumatoid arthritis, angiogenesis (such as breast carcinoma and liver carcinoma) and wound analing. The PRO polymucleotides have applications in molecular biology, including use as hybridisation probes, and in chromosome and gene mapping. ABL88259 to ABL88267 represent primers and probes used in the exemplification of the present invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEBCHPGSHKVPFFRKRKHHTCP 79
                                                                                                                                                                                                                                                                                                                                       Ferrara N, Gerber H, Gerritsen ME, Goddard A;
PJ, Gurney AL, Hillan KJ, Marsters SA, Pan J, Paoni NF;
FF, Watanabe CK, Williams PM, Wood WI, Ye W;
                                                                                                                                                                                                                                                                                                                                                                                                                      One hundred and eighty seven nucleic acids encoding PRO polypeptides, useful in diagnosis and treatment of cardiovascular (e.g. myocardial infarction), endothelial or angiogenic disorders in a mammal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ABL88072 to ABL88258 encode the PRO proteins given in ABB84817 to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 105;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%; Score 498; DB 5;
100.0%; Pred. No. 9.1e-47;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLPNLLCSRFPDGRYRCSMDLKNINF 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 11; Fig 172; 565pp; English
                                                                                                                                              2001WO-US006666.
2001US-00802706.
2001US-00808689.
2001US-008144.
2001US-00814208.
2001US-00854208.
2001US-00854208.
                                                                                                 2000WO-US034956.
2001US-00767609.
2001US-00796498.
                                                                                                                                                                                                                                                                             30-MAY-2001; 2001WO-US017443
01-JUN-2001; 2001WO-US017800
                                                                           2000WO-US032678.
                                                                                                                                                                                                                                                       2001WO-US017092
2001US-00870574
                                                                                                                                   2001WO-US006520
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 100.
Best Local Similarity 100.
Matches 86; Conservative
                                                                                                                                                                                                                                                                                                                 GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2002-090516/12.
N-PSDB; ABL88157.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 105 AA;
                              24-OCT-2000; 2
08-NOV-2000; 2
08-NOV-2000; 2
10-NOV-2000; 2
01-DEC-2000; 2
                                                                                                             22-JAN-2001;
28-FEB-2001;
28-FEB-2001;
                                                                                                                                                                                              05-APR-2001;
10-MAY-2001;
                                                                                                                                                 01-MAR-2001;
                                                                                                                                                                        14-MAR-2001;
22-MAR-2001;
                                                                                                                                                                                                                      10-MAY-2001;
                                                                                                                                                                                                                                    25-MAY-2001;
                                                                                                                                                                                                                                                                                                                                                              Stephan JF,
                                                                                                                                                                                                                                                                                                                                          Baker KP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                    Godowski
셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The invention comprises a method for producing an active peptide that has the same activity as a ZAQ ligand isolated from eukaryotic cells. The method of the invention is useful for the production of a physiologically -active ZAQ ligand for use in preventing or treating digestive diseases (e.g. colitis and diarrhea). The present amino acid sequence represents a human physiologically active ZAQ ligand-related protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         G protein-coupled receptor; ZAQ ligand; physiologically active peptide; ZAQ; antidiarrheic; laxative; drug development; digestive disease; colitis; diarrhoea; constipation; poor-absorption syndrome; gene therapy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       expressing
                                                    Human; ZAQ ligand; physiologically-active ZAQ ligand; digestive disease; colitis; diarrhoea.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 AVITGACERDVOCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Industrial production of physiologically-active ZAQ ligand by express in transformant prokaryote and refolding in redox buffer, for use in preventing or treating digestive diseases e.g. colitis and diarrhea.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human G protein-coupled receptor ZAQ ligand protein SEQ ID NO:23.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 105;
                                   Human physiologically-active ZAQ ligand-related protein 3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Score 498; DB 5;
100.0%; Pred. No. 9.1e-47;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Example 3; Page 76-77; 93pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Suenaga M, Nishimura O;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ABB06308 standard; protein; 105 AA.
                                                                                                                                                                                                                                                                                                      21-JAN-2002; 2002WO-JP000378.
                                                                                                                                                                                                                                                                                                                                               22-JAN-2001; 2001JP-00013027.
17-MAY-2001; 2001JP-00147759.
                                                                                                                                                                                                                                                                                                                                                                                                                    (TAKE ) TAKEDA CHEM IND LTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           86; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2002-566801/60.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 105 AA;
                                                                                                                                                                                                         WO200257443-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                             Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          27-MAY-2002
24-OCT-2002
                                                                                                                                                                                                                                                      25-JUL-2002.
```

80

Tue Nov

```
09-JUL-2001; 2001WO-US021735.
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
                                                                                                                                                           N-PSDB; AAD39321
                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 105 AA;
         WO200236625-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO200208284-A2
                                                                                                                                                                                                                    constipation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            19-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            31-JAN-2002.
                                10-MAY-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ABB95508;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       80
                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                         Zhou Q,
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ABB95508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT
ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                         The present invention describes a peptide containing an amino acid sequence (I) identical to or substantially similar to that of the sequences in ABB06305 or ABB06306, or its salt. (I) has antidiarrheic and laxative activities. The peptides and encoding DNAs from the present invention are useful for developing drugs to treat digestive diseases like colitis, diarrhoea, constipation and poor-absorption syndrome, including gene therapy. The physiologically-active cows milk-originated peptides are applicable as a specific ligand of brain-originated orphan grotein-coupled receptor protein ZAQ: ABL49615 to ABB40659 and ABB06303 to ABB0631515 represent sequences used in the exemplification of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP 79
                                                                                                                                                                                            Physiologically-active peptides from cows milk, useful for developing drugs to treat ZAQ-mediated diseases, particularly digestive diseases like colitis, diarrhea, constipation and poor-absorption syndrome, by
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human, prokineticin 1, gastrointestinal motility, intestinal cancer, irritable bowel syndrome; gastrointestinal reflux disease, diarrhoea, diabetic gastroparesis, chronic constipation; malabsorptive disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                          Takatsu Y, Watanabe T, Terao Y, Shintani Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 105;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            inflammatory bowel disorder; analgesic; infectious disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20. .105
/note= "Mature human prokineticin 1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%; Score 498; DB 5; 100.0%; Pred. No. 9.1e-47;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               80 CLPNLLCSRFPDGRYRCSMDLKNINF 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human prokineticin 1 precursor protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61 CLPNLLCSRFPDGRYRCSMDLKNINF 86

    .19
    /label= Signal_peptide

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAE24382 standard; protein; 105 AA
                                                                                                                                                                                                                                                    Claim 5; Page 61; 191pp; Japanese.
                                            17-JUL-2001; 2001WO-JP006162
                                                                 18-JUL-2000; 2000JP-00217442
                                                                             02-FEB-2001; 2001JP-00026779
                                                                                                   (TAKE ) TAKEDA CHEM IND LTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                              86; Conservative
                                                                                                                         T, Masuda Y,
S;
                                                                                                                                                           2002-188546/24
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity
                                                                                                                                                                      N-PSDB; ABL49637.
                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 105 AA;
WO200206483-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            04-OCT-2002
                     24 - JAN - 2002
                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Protein
                                                                                                                       Ohtaki
                                                                                                                                      Hinuma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ношо
                                                                                                                                                                                                                                gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAE24382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
```

```
New isolated human prokineticin 1 and 2 polypeptides that stimulate gastrointestinal smooth muscle contraction, useful for improving impaired gastrointestinal motility in irritable bowel syndrome, chronic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The invention relates to human prokineticin 1 and 2 polypeptides that stimulate gastrointestinal smooth muscle contraction and nucleic acid molecules encoding such polypeptides. Polypeptides of the invention are useful for treating disorders involving impaired gastrointestinal motility. They are useful for stimulating gastrointestinal motility in operational ileus, chronic constipation and gastrointestinal reflux disease. The prokineticin antagonists are useful for inhibiting gastrointestinal motility in conditions of diarrhoea, malabsorptive disorders, inflammatory bowel disorders, inflectious diseases and intestinal cancers. The antagonists also act as analgesics. The present sequence is human prokineticin 1 precursor protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cancer;
disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human; angiogenesis; PRO protein; cardiovascularisation; wound; atherosclerosis; cardiac hypertrophy; gene therapy; endothelial cardiant; cytostatic; antiangiogenic; hypotensive; vulnerary; antiarteriosclerotic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 105;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human angiogenesis related protein PRO1186 SEQ ID NO: 172.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%; Score 498; DB 5; 100.0%; Pred. No. 9.1e-47;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ABB95508 standard; protein; 105 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Example 1; Fig 1; 86pp; English.
01-NOV-2001; 2001WO-US047969.
                                                                      03-NOV-2000; 2000US-0245882P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          86; Conservative
                                                                                                                                            (REGC ) UNIV CALIFORNIA
                                                                                                                                                                                                                                                                                                 WPI; 2002-479752/51.
                                                                                                                                                                                                                      Ehlert FJ;
```

ö

```
The present invention provides the protein and coding sequences of human PRO proteins. These are useful for treating or diagnosing a cardiovascular, endothelial or angiogenic disorder, including cardiac hypertrophy, trauma, cancer, age-related macular degeneration, atherosclerosis, hypertension, arrerial restenosis, theumatoid arthritis, angina, myocardial infarctions, thrombophlebitis, lymphangitis, tumour
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Baker KP, Ferrara N, Gerber H, Gerritsen ME, Goddard A;
Godowski PJ, Gurney AL, Hillan KJ, Marsters SA, Pan J, Paoni NF;
Stephan JF, Watanabe CK, Williams PM, Wood WI, Ye W;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 One hundred and eighty seven nucleic acids encoding PRO polypeptides, useful in diagnosis and treatment of cardiovascular (e.g. myocardial infarction), endothelial or angiogenic disorders in a mammal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 11; Fig 172; 567pp; English.
28-JUL-2000; 2000WO-USG20710.
02-AUG-2000; 2000US-022695P.
17-AUG-2000; 2000US-00643657.
23-AUG-2000; 2000WO-USG23522.
24-AUG-2000; 2000WO-USG23328.
07-SEP-2000; 2000US-00664610.
18-SEP-2000; 2000US-00664610.
18-SEP-2000; 2000US-00664510.
24-OCT-2000; 2000US-0242922P.
                                                                                                                                                                                                                                                                                                                                           2001WO-US006520.
2001WO-US006666.
2001US-00802706.
2001US-00808689.
                                                                                                                                                                                                                                                                                                    2001US-00767609.
2001US-00796498
                                                                                                                                                                                                                                                                                                                                                                                                                          2001US-00816744.
2001US-00828366.
2001US-00854208.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2001US-00866034
2001WO-US017092
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2001WO-US017443
2001WO-US017800
                                                                                                                                                                                                  2000WO-US030952.
2000WO-US030873.
2000WO-US032678.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2001US-00870574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2001WO-US019692
                                                                                                                                                                                2000US-00709238
                                                                                                                                                                                                                                                               2000US-00747259
                                                                                                                                                                                                                                                                                     2000WO-US034956
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2001US-00854280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2001US-00866028
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GERBER H.
GERRITSEN M E.
GODDARD A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENENTECH INC.
BAKER K P.
FERRARA N.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GODOWSKI P J.
GURNEY A L.
HILLAN K J.
MARSTERS S A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STEPHAN J F.
WATANABE C K.
WILLIAMS P M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2002-171999/22.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PAONI N F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N-PSDB; ABL95646.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WOOD W I.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PAN J.
                                                                                                                                                                            08-NOV-2000;
08-NOV-2000;
10-NOV-2000;
01-DEC-2000;
20-DEC-2000;
                                                                                                                                                                                                                                                                                 20-DEC-2000;
22-JAN-2001;
28-FEB-2001;
28-FEB-2001;
                                                                                                                                                                                                                                                                                                                                                                01-MAR-2001;
09-MAR-2001;
14-MAR-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                        22-MAR-2001;
05-APR-2001;
10-MAY-2001;
21-MAY-2001;
25-MAY-2001;
25-MAY-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (GODO)) (GURN/) (HILL/) H (MARS/) H (PANJ/) H (PAON/) H (WILL/) H (WILL/) H (WILL/) H (WOOD/) H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (BAKE/)
(FERR/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (GERR/)
(GODD/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (GETH )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (GERB/)
```

```
ö
                                                                                 Human; PRO; cytostatic; tumour; cancer; breast; lung; stomach; liver;
horse; cow; dog; cat; sheep; pig; goat; rabbit; ADEPT;
antibody-dependent enzyme mediated prodrug therapy.
angiogenesis (such as breast carcinoma and liver carcinoma) and wound healing. The present sequence is a PRO protein of the invention
                                                                Gaps
                                                                 .
0
                                              100.0%; Score 498; DB 5; Length 105; 100.0%; Pred. No. 9.1e-47; ive 0; Mismatches 0; Indels
                                                                                                                                   80 CLPNLLCSRFPDGRYRCSMDLKNINF 105
                                                                                                                        86
                                                                                                                        CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                          ABU58083 standard; protein; 105 AA
                                                                                                                                                                                                                                                                                                                                                                                97US-0049787P.
97US-0062250P.
97US-0065186P.
97US-0065311P.
97US-0066770P.
98US-0075945P.
98US-0078910P.
98US-0083322P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              98US - 0087106P

98US - 0087609P

98US - 0087759P

98US - 008021P

98US - 0088021P

98US - 0088028P

98US - 0088028P

98US - 0088028P

98US - 0088039P

98US - 0088031P

98US - 0088127P

98US - 0088127P

98US - 0088217P

98US - 0088217P

98US - 0088217P

98US - 0088217P

98US - 0088217P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      98US-0088742P.
98US-0088810P.
98US-0088824P.
                                                                                                                                                                                                                                                                                                                                                                15-NOV-2001; 2001US-00997666
                                                                                                                                                                                                                                                  Human PRO polypeptide #115.
                                                                                                                                                                                                                                14-APR-2003 (first entry)
                                                                    86; Conservative
                                                  Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                            US2003027163-A1.
                                Sequence 105 AA;
                                                                                                                                                                                                                                                                                                                                                                                                             12-NOV-1997;
13-NOV-1997;
24-NOV-1997;
25-FEB-1998;
20-MAR-1998;
28-MAY-1998;
02-JUN-1998;
02-JUN-1998;
03-JUN-1998;
04-JUN-1998;
04-JUN-1998;
04-JUN-1998;
                                                                                                                                                                                                                                                                                                           Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          04-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  04-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      04-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  10-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             04-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       10-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                            17-OCT-1997
05-NOV-1997
                                                                                                                                                                                                                                                                                                                                               06-FEB-2003
                                                                                                                                                                                                              ABU58083;
                                                                                                                           61
                                                                    Matches
                                                                                                                                                                          RESULT 29
                                                                                                                                                                                    ABU58083
                                                                                                                                                                                             ន្តដូច្ច
                                                                                        ð
                                                                                                       셤
                                                                                                                            ઠે
                                                                                                                                            a
```

8US-0088826 8US-0088861 8US-0088861 8US-008876 8US-0089105 8US-0089514 8US-0089514 8US-0089538 8US-0089538 8US-0089599 8US-0089599 8US-0089599 8US-0089599	98US-0089907P. 98US-0089948P. 98US-0089948P. 98US-0089948P. 98US-0090252P. 98US-0090252P. 98US-0090355P. 98US-0090435P. 98US-0090435P. 98US-0090435P. 98US-0090435P. 98US-0090435P. 98US-0090435P. 98US-0090435P. 98US-009044P. 98US-0090555P. 98US-009055P. 98US-009055P. 98US-009055P. 98US-009055P. 98US-009055P. 98US-009055P. 98US-00905SP.	80.5.00.916.73 80.5.00.916.73 80.5.00.916.73 80.5.00.918.23 80.5.00.92.47 80.5.00.95.28 80.5.00.95.28 80.5.00.95.28 80.5.00.95.31 80.5.00.95.31 80.5.00.95.31 80.5.00.95.31 80.5.00.95.31 80.5.00.95.31 80.5.00.95.31 80.5.00.95.31 80.5.00.95.31 80.5.00.95.31 80.5.00.95.31 80.5.00.95.31 80.5.00.95.31 80.5.00.95.31 80.5.00.95.31 80.5.00.95.31
0-JUN-1998 1-JUN-1998 1-JUN-1998 1-JUN-1998 6-JUN-1998 6-JUN-1998 6-JUN-1998 7-JUN-1998 7-JUN-1998	18-JUN-1998; 19-JUN-1998; 19-JUN-1998; 22-JUN-1998; 22-JUN-1998; 23-JUN-1998; 23-JUN-1998; 24-JUN-1998; 24-JUN-1998; 24-JUN-1998; 24-JUN-1998; 24-JUN-1998; 24-JUN-1998; 24-JUN-1998; 24-JUN-1998; 24-JUN-1998; 25-JUN-1998; 25-JUN-1998; 25-JUN-1998; 25-JUN-1998; 25-JUN-1998; 26-JUN-1998;	2UUL-1998 7UUL-1998 7UUL-1998 9UUL-1998 0UUL-1998 0UUL-1998 0UUL-1998 4AUG-1998 4AUG-1998 4AUG-1998 6AUG-1998 0AUG-1998 0AUG-1998 0AUG-1998 1AUG-1998 1AUG-1998
2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	X X X X X X X X X X X X X X X X X X X	,

8US - 009676 8US - 009677 8US - 009673 8US - 009689 8US - 009689 8US - 009694 8US - 009695 8US - 009695 8US - 009695 8US - 009695 8US - 009695 8US - 009695 8US - 009695	00097651P 00097952P 00097954P 00097974P 00097974P 00097974P 00097998P 00097998P 00097998P 00097998P 00097998P 00097998P 00097998P 00097998P 00097998P 00097998P 00097998P 00097998P 00097998P 00097998P 0009799P 000979P 000979P 000979 000979P 000979P 000979P 000979 000979P 000979P 0	99US-0143048 99US-0144758 99US-0144758 99US-0146222 99US-0146222 99US-01802109 99WO-US02154 99WO-US02830 99WO-US02830 99WO-US02830 99WO-US02830 00WO-US02830 00WO-US02830 00WO-US0300 00WO-US00037	0WO-US006319 0WO-US006884 0WO-US008439 0WO-US013105 0WO-US013105 0WO-US015264 0US-0213637P 0WO-US020310 0WO-US020310
7. AUG-199 7. AUG-199 7. AUG-199 7. AUG-199 7. AUG-199 8. AUG-199 8. AUG-199 8. AUG-199 8. AUG-199 9. AUG-199	24-AUG-1998, 26-AUG-1998, 26-AUG-1998, 26-AUG-1998, 26-AUG-1998, 26-AUG-1998, 26-AUG-1998, 31-AUG-1999, 31-AU	7-7UL-1999; 6-7UL-1999; 8-7UL-1999; 8-7UL-1999; 7-AUG-1999; 5-SEP-1999; 6-DEC-1999; 0-DEC-1999; 1-DEC-1999; 1-DEC-1999; 6-DEC-1999; 6-DEC-1999; 6-DEC-1999; 6-DEC-1999; 7-FEB-2000; 8-FEB-	0-MAR-2000) 0-MAR-2000) 0-MAR-2000) 0-MAR-2000) 0-MAR-2000) 0-MAY-2000)
* * * * * * * * * * * * * * * * * * * *		***************************************	***************************************

```
Ashkenazi AJ, Baker KP, Botstein D, Desnöyers L, Eaton DL;
Ferrara N, Fong S, Gerber H, Gerritsen ME, Goddard A, Godowski PJ;
Grimaldi JC, Gurney AL, Kljavin IJ, Napier MA, Pan J, Paoni NF;
Roy MA, Stewart TA, Tumas D, Watanabe CK, Williams PM, Wood WI;
                                                                                                                                                                                                                                                                                                              15-5EP-1999; 99W0-US028313.
30-NOV-1999; 99W0-US028313.
31-DEC-1999; 99W0-US028313.
316-DEC-1999; 99W0-US028313.
316-DEC-1999; 99W0-US028634.
316-DEC-1999; 99W0-US030911.
32-DEC-1999; 99W0-US030911.
32-PEB-2000; 2000W0-US00376.
32-PEB-2000; 2000W0-US00376.
32-PEB-2000; 2000W0-US003431.
32-PEB-2000; 2000W0-US003431.
32-PEB-2000; 2000W0-US003431.
32-PEB-2000; 2000W0-US003431.
33-PAR-2000; 2000W0-US003431.
30-PAR-2000; 2000W0-US003431.
30-PAR-2000; 2000W0-US003431.
30-PAR-2000; 2000W0-US003431.
30-PAR-2000; 2000W0-US003431.
30-PAR-2000; 2000W0-US01377.
30-PAR-2000; 2000W0-US01377.
30-PAR-2000; 2000W0-US013378.
31-PAR-2000; 2000W0-US013378.
31-PAR-2000; 2000W0-US013358.
33-PAR-2000; 2000W0-US013526.
33-PAUG-2000; 2000W0-US013526.
33-PAUG-2000; 2000W0-US013528.
34-PEB-2001; 2000W0-US013528.
                                                                                                                                                                                                                          98WO-US019330.
98WO-US019437.
98WO-US021141.
98WO-US025108.
99WO-US000106.
         98US-0088142P.
98US-0088814P.
98US-0088828P.
98US-0088828P.
98US-0088876P.
98US-00898140P.
98US-0089512P.
98US-0089513P.
98US-0089513P.
98US-0089538P.
98US-0089538P.
                                                                                                                                                                                           98US-0089801P.
98US-0089907P.
98US-0089908P.
                                                                                                                                                                                                                                                                                             99WO-US012252
                                                                                                                                                                                                                                                                                                      99WO-US021090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (GETH') GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ferrara N, Fong S, Grimaldi JC, Gurney Roy MA, Stewart TA, Zhang Z;
                                                                                                                                                                                                                                                                     05-JAN-1999;
08-MAR-1999;
02-JUN-1999;
15-SEP-1999;
         10 - JUN - 1998;
10 - JUN - 1998;
10 - JUN - 1998;
11 - JUN - 1998;
11 - JUN - 1998;
12 - JUN - 1998;
16 - JUN - 1998;
                                                                                                     16-JUN-1998;
16-JUN-1998;
17-JUN-1998;
17-JUN-1998;
                                                                                                                                                  17-JUN-1998;
                                                                                                                                                                                 17-JUN-1998
                                                                                                                                                                                              18-JUN-1998;
                                                                                                                                                                                                                             16-SEP-1998;
ö
                                                              Human; PRO; hypertrophy of neonatal heart; angiogenesis; wound healing; cardiac insufficiency disorder; cancer; tumour; immune response; adrenal cortical capillary endothelial growth; c-fos induction; vascular endothelial growth factor inhibition; VGF inhibition; endothelial cell growth inhibitor; T-lymphocytes stimulation; retinal neurons cell survival; rod photoreceptor cell survival; reatinal disorder; retinal spigmentosun; kidney disorder; mammalian kidney mesangial cell proliferation; Berger disease; dermatitis; harpetiformis; Crohn's disease; chondrocyte proliferation; chondrocyte redifferentiation; sports injury; arthritis.
                                              Gaps
                                             .
0
                       Length 105;
                                             Indels
                                                                                                                                                                                                                                                     Novel human secreted or transmembrane protein PRO1186
                                              .
0
                       Query Match
100.0%; Score 498; DB 6;
Best Local Similarity 100.0%; Pred. No. 9.1e-47;
Matches 86; Conservative 0; Mismatches 0;
                                                                                                                         61 CLPNLLCSRFPDGRYRCSMDLKNINF 86
                                                                                                                                                                                        ABUS9161 standard; protein; 105 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     97US-0049787P.
97US-0062280P.
97WS-0065111P.
97US-0065111P.
97US-0065111P.
97US-0065111P.
98US-0078910P.
98US-0081322P.
98US-008132P.
98US-0081600P.
98US-0081600P.
98US-0081600P.
98US-0081609P.
98US-008162P.
98US-0088021P.
98US-0088022P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   14-NOV-2001; 2001US-00990442
    07-SEP-2000; 2000US-0230978P.
                                                                                                                                                                                                                                   28-APR-2003 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                         US2002132252-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   04-JUN-1998;
04-JUN-1998;
04-JUN-1998;
04-JUN-1998;
04-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20-MAR-1998;
28-APR-1998;
07-MAY-1998;
28-MAY-1998;
02-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   13-NOV-1997;
24-NOV-1997;
25-FEB-1998;
                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         09-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         02-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              03-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             05-NOV-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                               19-SEP-2002
                                                                                                                                                                                                              ABU59161;
                                                                                                                                                                    RESULT 30
                                                                                                                                                                               ABU59161
                                                                                                                                                                                          셤
                                                                                                             ò
```

```
9805-0088824P.
9805-0088826P.
9805-0088858P.
9805-0088816P.
9805-0089105P.
                                                                                                                                                                                                                                              9805-00871069-
9805-0087607P-
9805-0087607P-
9805-0087621P-
9805-0088021P-
9805-0088025P-
9805-0088028P-
9805-0088028P-
9805-0088028P-
9805-0088028P-
                                                                                                                                                                                                                                                                                                                                                                                                             9805-0088033P.
9805-0088326P.
9805-0088202P.
9805-0088212P.
9805-0088717P.
9805-0088734P.
9805-0088734P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 98US-0089512P.
98US-0089514P.
98US-0089532P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          98US-0089538P.
98US-0089598P.
98US-0089599P.
98US-0089600P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               98US-0089947P.
98US-0089948P.
98US-0089952P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          98US-0090246P.
98US-0090252P.
98US-0090254P.
                                                                                                                                          970S-0065186P.
970S-0065311P.
970S-0066770P.
980S-0075945P.
98US-0078910P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       98US-0090472P.
98US-0090535P.
98US-0090540P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        98US-0089653P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  98US-0089801P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 98US-0089908P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     98US-0090349P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      98US-0090355P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  98US-0090429P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 98US-0090431P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             98US-0090444P.
                                                                                                                                                                                                                   98US-0083322P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               98US-0090435P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            98US-0090445P
                                                                                                                97US-0062250P
97WO-US020069
                                                                        2001US-00990711
             US2003032023-A1.
                                                                      14-NOV-2001;
                                                                                                                                                                                                                                                                                                                                     04-JUN-1998;
04-JUN-1998;
04-JUN-1998;
04-JUN-1998;
04-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          24-JUN-1998;
24-JUN-1998;
24-JUN-1998;
                                                                                                                                                                                                                                                 28-MAY-1998;
                                                                                                                                                                                                                                                                                                           03-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                04-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                            05-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              10-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         11-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     12-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   16-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  16-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .7-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        17-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                19-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   24 - JUN - 1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 24-JUN-1998;
                                                                                                                                                                                                                                                                                               02-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      09-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    10-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          11-JUN-1998
                                          13-FEB-2003
                                                                                                                               05-NOV-1997
                                                                                                                                                            13-NOV-1997
                                                                                                                                                                          24-NOV-1997
                                                                                                                                             12-NOV-1997
The invention describes an isolated human PRO polypeptide. The PRO polypeptides are useful in detecting PRO polypeptides in a sample, in linking a bioactive molecule to a cell expressing a PRO polypeptide, and in modulating at least one biological activity of a cell expressing a PRO polypeptide. PRO1312 stimulates hypertrophy of neonatal heart and is thus useful for treating cardiac insufficiency disorders. PRO186, and PRO34, PRO848, PRO848, PRO848, PRO848, PRO848, PRO849, PRO849, PRO849, PRO849, PRO849, PRO849, PRO849, PRO840, PRO941, PRO840, PRO840, PRO941, PRO840, PRO187, Induce c-fos in endothelial cells, and are thus useful for treating conditions or disorders where angiogenesis would be beneficial, e.g. wound healing and antagonist of this polypeptide are useful for treating cancerous tumours. PRO812 inhibits vascular endothelial growth factor (VEGF) stimulated proliferation of endothelial cells and is thus useful for inhibiting endothelial cell growth in mammals which would be beneficial in inhibiting tumour growth. PRO826, PRO186, PRO1184, PRO1346 and PRO1375 stimulate proliferation of
                                                                                                                                                                                                                                                                                                                                                                                stimulated T-lymphocytes and are therapeutically useful for enhancing immune response. PR0828, PR0826, PR01068 or PR0132 enhance survival of retinal neurons cells (PR01132 is also enhances survival/prollferation of rod photoreceptor cells) and therefore are useful for treating retinal disorders of injuries, e.g. retinitis pigmentosum, AMD. PR0819, PR0813 and PR011066 induce prollferation of mammalian kidney mesangial cells, and therefore are useful for treating kidney disorders associated with decreased mesangial cell function such as Berger disease or other nephropathies associated with dermatitis, herpetiformis or Crohn's disease. PR01310, PR0844, PR01312, PR01192 and PR01387 induce the prollferation and/or redifferentiation of chondrocytes in culture and are thus useful for treating sports injuries, and arthritis. This is the amino acid sequence of a novel human PRO protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20 AVITGACERDVQCGAGTCCAISLMLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP 79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human; PRO; secreted protein; transmembrane protein; cardiac insufficiency disorders; angiogenesis; wound healing; cancerous tumour; immune response; retinal disorder; sight loss; retinitis pigmentosum; age-related macular degeneration; AMD; kidney disorder; Berger disease; nephropathy; dermatitis; herpetiformis; Crohn's disease; sports injury; arthritis.
                                       Novel isolated PRO polypeptides e.g., PRO826, PRO1068, PRO1184, PRO1346 and PRO1375, which stimulate proliferation of stimulated T-lymphocytes are therapeutically useful for enhancing immune response and in cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%; Score 498; DB 6; Length 105; 100.0%; Pred. No. 9.1e-47;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human secreted/transmembrane protein PRO1186.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLPNLLCSRFPDGRYRCSMDLKNINF 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 CLPNLLCSRFPDGRYRCSMDLKNINF 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ABU82673 standard; protein; 105 AA.
                                                                                                                 Claim 12; Fig 266; 648pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         26-JUN-2003 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     86; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
WPI; 2003-247083/24.
               N-PSDB; ABX80360.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 105 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ABU82673;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
```

```
98US-0090557P.
98US-0090557P.
98US-0090650P.
98US-0090690P.
98US-0090690P.
98US-0090695P.
98US-0091669P.
98US-0091669P.
98US-009150P.
98US-0091519P.
98US-0095218P.
98US-0095218P.
98US-0095218P.
98US-0095218P.
98US-0095218P.
98US-0095318P.
98US-0096894P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  98WO-US019437.
98WO-US021141.
98WO-US025108.
98US-0113296P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   98WO-US019330
98US-0100858P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     26-AUG-1998;
26-AUG-1998;
26-AUG-1998;
26-AUG-1998;
26-AUG-1998;
31-AUG-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                       24-AUG-1998;
26-AUG-1998;
26-AUG-1998;
26-AUG-1998;
                                                                                                                                                                                                                                                                                    11-AUG-1998;
12-AUG-1998;
17-AUG-1998;
17-AUG-1998;
17-AUG-1998;
17-AUG-1998;
                                                                                                                                                                                                                                                                                                                                                                          -AUG-1998;
                                                                                                                                                                                                04-AUG-1998;
04-AUG-1998;
04-AUG-1998;
04-AUG-1998;
04-AUG-1998;
04-AUG-1998;
10-AUG-1998;
10-AUG-1998;
110-AUG-1998;
11-AUG-1998;
                                                                                                                                                                                                                                                                                                                                          17-AUG-1998;
17-AUG-1998;
17-AUG-1998;
17-AUG-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                 18-AUG-1998;
19-AUG-1998;
20-AUG-1998;
                                                                                                                                                                  09-JUL-1998
                                                                                                                                                  07-JUL-1998
```

```
Human; secreted and transmembrane protein; PRO; antiinflammatory; antiarteriosclerotic; cardiant; anti-infertility; anti-HIV; cytostatic; antidiabetic; gene therapy; tumour necrosis factor (TMP)-alpha release; TMP-alpha release; cell proliferation; cell differentiation; gene expression modulator; proteoglycan release; cytokine release; tumour; inflammatory disease; organ failure; atherosclerosis; acquired immunodeficiency syndrome; cancer; premature aging; AIDS; acquired immunodeficiency syndrome; cancer; diabetic complication; chromosome mapping; apene mapping; pharmaceutical; diagnostic; biosensor; bioreactor; tissue typing.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 105;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Novel human secreted and transmembrane protein PRO1186.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                th 100.0%; Score 498; DB 6; Similarity 100.0%; Pred. No. 9.1e-47; 86; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLPNLLCSRFPDGRYRCSMDLKNINF 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ABO17850 standard; protein; 105 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         22-FEB-2000; 2000WO-US004414.
24-FEB-2000; 2000WO-US004914.
24-FEB-2000; 2000WO-US006914.
02-MAR-2000; 2000WO-US006319.
10-MAR-2000; 2000WO-US006319.
15-MAR-2000; 2000WO-US006884.
20-MAR-2000; 2000WO-US00884.
15-MAY-2000; 2000WO-US01358.
15-MAY-2000; 2000WO-US014941.
02-MAY-2000; 2000WO-US014941.
02-MAY-2000; 2000WO-US014941.
23-MAY-2000; 2000WO-US014941.
23-MAY-2000; 2000WO-US014941.
23-MAY-2000; 2000WO-US014941.
23-MAY-2000; 2000WO-US014941.
               99WO-USODSO28.
99US-0123957P.
99US-01212552.
99US-0141037P.
99US-014569RP.
99US-014569RP.
99US-014522P.
99WS-0145396P.
                                                                                                                                                                                                                                                                                                                                                                                 99WO-US030095.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2000WO-US003565.
2000WO-US004341.
                                                                                                                                                                                                                                                            99WO-US021547.
                                                                                                                                                                                                                                                                                                          99WO-US028313
99WO-US028301
                                                                                                                                                                                                                                                                                                                                                            99WO-US028634
                                                                                                                                                                                                                                                                                                                                                                                                                                 2000WO-US000219
                                                                                                                                                                                                                                                                                                                                                                                                                                                            2000WO-US000376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         26-AUG-2003 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
                                                                                                                                                       26-JUL-1999;
28-JUL-1999;
15-SEP-1999;
15-SEP-1999;
08-OCT-1999;
01-DEC-1999;
01-DE
               08-MAR-1999;
12-MAR-1999;
02-JUN-1999;
23-JUN-1999;
07-JUL-1999;
20-JUL-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ABO17850;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Ma
Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ABO17850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    요
ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
```

ö

```
97WO-US005230.
98WO-US012456.
98WO-US014552.
98WO-US018888.
98WO-US018018.
                                                                                                                                                                                                                                                                                                                                                                        2000WO-US000219
2000WO-US000277
2000WO-US000376
                                                                                                                                                                                                                                                                                 99WO-US028409
                                                                                                                                                                                                                                                                                                                                                                                              :000WO-US003565
                                            2002US-00140474
                                                                                                      98WO-US019094
98WO-US019177
                                                                                                                      98WO-US019330
                                                                                                                                     98WO-US021141
                                                                                                                                            98WO-US022991
98WO-US022992
                                                                                                                                                           98WO-US024855
                                                                                                                                                                  98WO-US025108
                                                                                                                                                                          99WO-US000106
                                                                                                                                                                                 99WO-US005028
                                                                                                                                                                                         99WO-US005190
                                                                                                                                                                                                99WO-US008615
                                                                                                                                                                                                      99WO-US010733
                                                                                                                                                                                                               99WO-US012252
                                                                                                                                                                                                                              99WO-US020594
                                                                                                                                                                                                                                     99WO-US020944
                                                                                                                                                                                                                                             99WO-US021090
                                                                                                                                                                                                                                                   99WO-US021547
                                                                                                                                                                                                                                                           99WO-US023089
                                                                                                                                                                                                                                                                   99WO-US028214
                                                                                                                                                                                                                                                                          99WO-US028313
                                                                                                                                                                                                                                                                                        99WO-US028301
                                                                                                                                                                                                                                                                                                99WO-US028634
                                                                                                                                                                                                                                                                                                       99WO-US028551
                                                                                                                                                                                                                                                                                                               99WO-US028564
                                                                                                                                                                                                                                                                                                                      99WO-US028565
                                                                                                                                                                                                                                                                                                                              99WO-US030095
                                                                                                                                                                                                                                                                                                                                     99WO-US030911
                                                                                                                                                                                                                                                                                                                                                          99WO-US031243
99WO-US031274
                                                                                                                                                                                                                                                                                                                                                                                                       000WO-US004341
                                                                                                                                                                                                                                                                                                                                                                                                             2000WO-US004342
2000WO-US004414
                                                                                                                                                                                                                                                                                                                                                                                                                             :000WO-US004914
                                                                                                                                                                                                                                                                                                                                                                                                                                    :000WO-US005004
                                                                                                                                                                                                                                                                                                                                                                                                                                                   1000WO-US005746
                                                                                                                                                                                                                                                                                                                                                                                                                                                           000WO-US005841
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1000WO-US007377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2000WO-US022031
2000WO-US023522
                                                                                                                            98WO-US019437
                                                                                                                                                                                                                                                                                                                                                                                                                                            2000WO-US005601
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          000WO-US006884
               US2003032156-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   28-JUL-2000;
11-AUG-2000;
23-AUG-2000;
                                                                                                                                                                                                                                                                                                                                                                        05-JAN-2000;
06-JAN-2000;
06-JAN-2000;
Homo sapiens.
                                            06-MAY-2002;
                                                                                                                                                                                                                                                                                                                                          20-DEC-1999;
22-DEC-1999;
30-DEC-1999;
30-DEC-1999;
                                                                                                                                                                                                                                                                                                                                                                                                             18-FEB-2000;
22-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                           01-MAR-2000;
02-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                               11-FEB-2000;
                                                                                                                            17-SEP-1998;
                                                                                                                                                                                                                                     13-SEP-1999
                                                                                                                                                                                                                                                   15-SEP-1999
05-OCT-1999
                                                                         14-JUL-1998
28-AUG-1998
                                                                                        10-SEP-1998
                                                                                                14-SEP-1998
                                                                                                              14-SEP-1998
                                                                                                                                                                                         10-MAR-1999
                                                                                                                                                                                                               02-JUN-1999
                                                                                                                                                                                                                                                                                 30-NOV-1999
                                                                                                                                                                                                                                                                                                       DEC-1999
                                                                                                                                                                                                                                                                                                                      02-DEC-1999
                                                                                                                                                                                                                                                                                                                                     20-DEC-1999
                             13-FEB-2003
83
```

2000WO-US032678 2000WS-0044259 2001WS-00796498 2001WS-00796498 2001WS-00806662 2001WS-00806666 2001US-00808689 2001US-00808689 2000WO-US023328. 2000WO-US030952. 2000WO-US030873. 2001US-00854208. 2001US-00854280. 2001US-00860216. 2001US-00874503. 2001US-00882636. 2001US-00886342. 2001WO-US017800 2001WO-US021735 2001US-00908827 2001US-00866028 2001US-00866034 2001WO-US017092 2001US-00872035 2001WO-US019692 2001US-00887879 2001WO-US020116 2001WO-US021066 2001US-00924419 2001US-00028072 2001US-00927796 01-DEC-2000; 20-DEC-2000; 20-DEC-2000; 28-FEB-2001; 28-FEB-2001; 14-MAR-2001; 22-MAR-2001; 05-MAY-2001; 10-MAY-2001; 18-MAY-2001; 25-MAY-2001; 25-MAY-2001; 25-MAY-2001; 01-JUN-2001; 01-JUN-2001; 20-JUN-2001; 21-JUN-2001; 22-JUN-2001; 29-JUN-2001; 14-JUN-2001; 09-JUL-2001; 19-DEC-2001; 01-MAR-2001; 05-JUN-2001; 06-AUG-2001; 09-AUG-2001; 

## (GETH ) GENENTECH INC.

3 Gao Baker KP, Beresini M, Deforge L, Desnoyers L, Filvaroff E, Gr Gerritsen ME, Goddard A, Godowski PJ, Gurney AL, Sherwood S; Smith V, Stewart TA, Tumas D, Watanabe CK, Wood WI, Zhang Z;

## WPI; 2003-341980/32. N-PSDB; ACD24087.

New secreted and transmembrane PRO nucleic acids, for treating inflammation, organ failure, atherosclerbsis, cardiac injury, infertility, birth defects, premature aging, axquired immunodeficiency syndrome (AIDS), or cancer.

## Claim 12; Fig 470; 660pp; English.

The invention describes an isolated nucleic acid (I) comprising, or which has 80 % sequence identity to, or the full-length coding sequence of, one of 275 nuclectide sequences, and which encodes a corresponding polypeptide selected from 275 amino acid sequences, where all sequences are given in the specification. The polypeptide encoded by (I) is used to detect RND polypeptides, link a bioactive molecule to a cell expressing a PRO polypeptide, modulate a biological activity of a cell, stimulate the release of tumour necrosis factor (TMF) alpha from human blood, modulate to the uptake of glucose or free fatty acid by cells, stimulate the release of colls expression, stimulate the release of proteoglycans, stimulate the release of cytokine to from peripheral blood mononuclear cells, inhibit the binding of A-peptide coff and polypeptide encoded by it, are useful for treating inflammatory diseases, organ failure, atherosclerosis, cardiac injury, infertility, birth defects, premature aging, acquired immunodeficiency syndrome (ADDS), cancer, or diabetic complications. The nucleic acid is useful as hybridisation probes, in chromosome and gene mapping, and in generating consistences RNA or DNA. The polypeptides are useful as pharmaccuticals, diagnossics, biosensors or bioreactors. Both are useful in tissue typing. This is the amino acid sequence of a novel human secreted and transmembrane PRO polypeptide.

```
New transmembrane polypeptides and nucleic acids encoding the polypeptides, useful in gene therapy, in chromosome identification, as chromosome markers, or in generating probes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2003-288106/28.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     N-PSDB; ABX90338.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Roy MA,
Zhang Z;
ö
                                                         1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                          Human; PRO; secreted; transmembrane; signal peptide; pharmaceutical; diagnostic; therapeutic; gene therapy.
                                     Gaps
                                    .
0
                      Length 105;
                                    Indels
                      Match 100.0%; Score 498; DB 6; Local Similarity 100.0%; Pred. No. 9.1e-47; es 86; Conservative 0; Mismatches 0;
                                                                                                                                                                             Human secreted/transmembrane protein, #151.
                                                                                       CLPNLLCSRFPDGRYRCSMDLKNINF 105
                                                                                86
                                                                                CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                   ABU60592 standard; protein; 105 AA
                                                                                                                                                                                                                                                                           97105-0049787P

97105-0065210P

97105-0065311P

97105-0065311P

97105-0066770P

98105-0078910P

98105-0078910P

98105-0083122P

98105-0087607P

98105-0087607P

98105-0087607P

98105-0087607P

98105-0087607P

98105-0088023P

98105-0088028P

98105-0088028P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   98US-0088858P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             98US-0088826P
                                                                                                                                                                                                                                                              14-NOV-2001; 2001US-00992598
                                                                                                                                                               01-MAY-2003 (first entry)
                                                                                                                                                                                                                                 US2002160384-A1.
         Sequence 105 AA;
                                                                                                                                                                                                                                                                                                       24-NOV-1997)
25-FBB-1998)
20-MAR-1998)
20-MAR-1998)
28-MAY-1998)
02-JUN-1998)
                                                                                                                                                                                                                                                                                                                                                                  02-JUN-1998;
02-JUN-1998;
03-JUN-1998;
04-JUN-1998;
04-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                     04-JUN-1998;
04-JUN-1998;
05-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          05-JUN-1998;
05-JUN-1998;
05-JUN-1998;
                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                       4-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                        04-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  09-NUU-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     11-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10-JUN-1998
                                                                                                                                                                                                                                                                             16-JUN-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        10-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10-JUN-1998
                                                                                                                                                                                                                                                31-OCT-2002
                                                                                                                                                 ABU60592;
                                                                  20
                                                                                61
                       Query Match
                                Best Loc
Matches
                                                                                                                     RESULT 33
                                                                                                                           ABU60592
                                                                                                                                          셤
                                                                                ઠે
   SXX
```

```
Paoni NF;
Wood WI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Godowski
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ashkenazi AJ, Baker KP, Botstein D, Desnoyers L, Eaton DL; Ferrara N, Fong S, Gerber H, Gerritsen ME, Goddard A, God
Grimaldi JC, Gurney AL, Kljavin IJ, Napier MA, Pan J, Paol
Roy MA, Stewart TA, Tumas D, Matanabé CK, Williams PM, Woo
12-UN-1998; 98US-0089105F.
16-UN-1998; 98US-0089102F.
16-UN-1998; 98US-0089512P.
16-UN-1998; 98US-0089512P.
17-UN-1998; 98US-0089512P.
17-UN-1998; 98US-0089512P.
17-UN-1998; 98US-0089512P.
17-UN-1998; 98US-0089512P.
17-UN-1998; 98US-0089513P.
17-UN-1998; 98US-0089513P.
18-UN-1998; 98US-008961P.
19-UN-1999; 98US-008961P.
11-SEP-1999; 98US-008961P.
11-SEP-1999; 99WO-US01931.
11-SEP-1999; 99WO-US01931.
11-SEP-1999; 99WO-US01931.
11-SEP-2000; 2000WO-US0191.
11-SEP-2000; 2000WO-US0191.
11-SEP-2000; 2000WO-US0191.
11-SEP-2000; 2000WO-US0191.
11-MAR-2000; 2000WO-US0191.
11-MAR-2000; 2000WO-US0191.
11-MAR-2000; 2000WO-US0191.
11-MAY-2000; 2000WO-US0191.
11-MAY-2000; 2000WO-US0193.
11-MAY-2000; 2000WO-US0196.
11-MAY-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     09-JUL-2001; 2001WO-US021735
28-AUG-2001; 2001US-00941992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (GETH ) GENENTECH INC.
```

Ы;

Gaps .

Indels

; 0

Length 105;

 $\mathbb{Z} \times \mathbb{C} \times$ 

```
The present invention relates to the isolation of novel human PRO polypeptides, and the polynucleotide sequences encoding them. The PRO polypeptides are secreted and transmembrane proteins. The PRO polypeptides and polynucleotides are useful for preparing a medicament useful in the diagnosis and treatment of tumours. Anti-PRO antibodies are useful in diagnostic assays for PRO, by detecting its expression in specific cells, tissues or serum, and for affinity purification of PRO from recombinant cell culture or natural sources. ABUS0739-ABUS0860 represent the human PRO polypeptides of the invention. Note: The sequence data for this patent was obtained in electronic format directly from the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              New genes, and its encoded secreted and transmembrane polypeptides, useful for stimulating Tumor Necrosis Factor alpha, or chondrocyte or pericyte proliferation, especially for treating lung tumors, arthritis or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP 79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               antiarthritic; osteopathic; gene therapy; TNF-Agonist-Alpha; chondrocyte stimulator; pericyte stimulator; fibroblast modulator; pharmaceutical; diagnostic; biosensor; bioreactor; tumour; lung tumour; colon tumour; breast tumour; prostate tumour; rectal tumour; liver tumour; cartilage disorder; sports injury;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gerritsen ME, Goddard A, Godowski PJ;
Smith V, Stephan JF, Watanabe CK, Wood WI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human; secreted and transmembrane protein; PRO; cytostatic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Novel human secreted and transmembrane protein PRO1186.
                                                                                                                                                                                                                                                                                                   USPTO web site at segdata.uspto.gov/psipsDIDEntry.html
                                                                                                                                                                                                                                                                                                                                                                                                100.0%; Score 498; DB 6;
100.0%; Pred. No. 9.1e-47;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLPNLLCSRFPDGRYRCSMDLKNINF 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABO33787 standard; protein; 105 AA
Claim 11; Fig 166; 314pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 11; Fig 166; 314pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-JUN-2001; 2001MO-US017800.
29-JUN-2001; 2001MO-US021066.
09-APR-2002; 2002US-00119480.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 12-AUG-2002; 2002US-00218631.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             17-SEP-2003 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 100.
Best Local Similarity 100.
Matches 86; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Desnoyers L,
, Gurney AL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (GETH ) GENENTECH INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2003-512315/48.
N-PSDB; ACD68675.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         wounds in a mammal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             arthritis; wound
                                                                                                                                                                                                                                                                                                                                                    Sequence 105 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US2003045687-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Baker KP, De
Grimaldi JC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              06-MAR-2003.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AB033787;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The invention discioles isolated rate secretes. Candemizate polypeptices comparising a sequence without signal peptide and the nucleic acid encoding them. The polypeptides can be used to raise antibodies that specifically bind to the PRO polypeptide, for linking a bioactive molecule to a cell expressing a PRO protein and for modulating at least one biological activity of a cell. The PRO polypeptides or polymouclectides are also useful in gene therapy, in chromosome cidentification, as chromosome markers, or in generating probes. The PRO polypeptides are useful as molecular markers for protein electrophoresis, and the isolated nucleic acids may be used for recombinantly expressing those markers. The PRO polypeptides are useful in diagnostic assays for issue typing. Anti-PRO antibodies are useful in diagnostic assays for natural sources. The sequences presented in ABU60478-ABU60624 are the PRO polypeptides of the invention of PRO from recombinant cell culture or natural sources. The sequence data for this patent is also available in electronic format from USPTO at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human; PRO polypeptide; secreted and transmembrane protein; anti-PRO antibody; diagnostic assay; gene expression; tumour; cytostatic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP 79
                                                 The invention discloses isolated PRO secreted/transmembrane polypeptides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gerritsen ME, Goddard A, Godowski PJ;
Smith V, Stephan JF, Watanabe CK, Wood WI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  One hundred and twenty two nucleic acids encoding PRO polypeptides, useful for the manufacture of a medicament for diagnosing or treating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 105;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 100.0%; Score 498; DB 6; Best Local Similarity 100.0%; Pred. No. 9.1e-47 Matches 86; Conservative 0; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61 CLPNLLCSRFPDGRYRCSMDLKNINF 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ABU80821 standard; protein; 105 AA.
  Claim 12; Fig 266; 650pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      seqdata.uspto.gov/sequence.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-JUN-2001; 2001WO-US017800.
29-JUN-2001; 2001WO-US021066.
09-APR-2002; 2002US-00119480.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           28-AUG-2002; 2002US-00230163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            25-JUL-2000; 2000US-0220638P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human PRO polypeptide #83.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Desnoyers I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2003-342045/32.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 105 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US2003036635-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 N-PSDB; ACA66923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Grimaldi JC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                23-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20-FEB-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Baker KP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ABU80821;
```

RESULT 34 ABU80821

셤 ð g

ò

```
98US - 0088031P
98US - 0088033P
98US - 0088127P
98US - 0088212P
98US - 0088217P
98US - 0088655P
98US - 0088742P
98US - 0088742P
98US - 0088824P
       98US-0087607P.
98US-0087609P.
98US-0087759P.
98US-0088727P.
98US-0088021P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000WO-US020710
                                                                                98US-0088026P.
98US-0088028P.
                                                                                                          98US-0088029P
                                                                                                                                                                                                                                                                                                                                                                                                                 98US-0089598P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      22-FEB-2000; 2000WO-US004414
24-FEB-2000; 2000WO-US004914
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000WO-US006884
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000WO-US022031
                                                                                                                                                                                                                                                                                                                                      12-JUN-1998;
16-JUN-1998;
                                                                                 04-JUN-1998;
                                                                                                                                                                                                                                                             10-JUN-1998;
                                                                                                                      04-JUN-1998;
                                                                                                                                                                                                              09-JUN-1998
                                                                                                                                                                                                                                       10-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                     7-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                 17-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                           .7-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           L8-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-DEC-1998
The invention describes an isolated nucleic acid molecule comprising a sequence with at least 80% identity to: (a) a nucleotide encoding any of sequence with at least 80% identity to: (a) a nucleotide encoding any of 122 PRO (secreted and transmembrane) polypeptides whose sequences are fully defined in the specification; or (b) any of 122 nucleotide expension or the full length coding sequence of any these 122 nucleotide sequences. The PRO polypeptides or polynucleotides are useful concludarly useful for detecting tumours or plynucleotides are useful as pharmaceuticals, diagnostics, blosensors or bloreactors. These are comparant to retain the properties of TNF-alpha from human blood, in a mammal, for stimulating the release of TNF-alpha from human blood, or cells, for stimulating proliferation of pericyte cells, or for modulating commal human dermal fibroblast proliferation. The PRO nucleic acid or polypeptide is also useful for treating tumours or various bone and/or cartilage disorders (e.g. sports injurance or various bone and/or cartilage disorders (e.g. sports injurance or arthritis), or wounds. The PRO polypeptides are useful in drug screening, particularly as targets of the therapeutic intervention in these diseases, and in the diagnostic contentiation of the presence of these diseases. The PRO polypeptides are also useful as molecular weight markers, or for chromosome contenting libraries of human DNNA, genomic DNA or mRNA. The PRO genes may also be used in agene therapy, particularly for replacing a defective consequence of a novel human secreted and contents membrane PRO polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                20 AVITGACERDVQCGAGTCCAISLMLRGLRMCTPLGREGEBCHPGSHKVPFFRKRKHHTCP 79
                                                                                                                                                                                                                                                                                                                                                                                                                   1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP 60
                                                                                                                                                                                                                                                                                                                                                                                           0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human, PRO polypeptide, secreted protein, transmembrane protein,
genetic disorder, antibacterial, immunosuppressive.
                                                                                                                                                                                                                                                                                                                                                               100.0%; Score 498; DB 6; Length 105; 100.0%; Pred. No. 9.1e-47; tive 0; Mismatches 0; Indels C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLPNLLCSRFPDGRYRCSMDLKNINF 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLPNLLCSRFPDGRYRCSMDLKNINF 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ABU13974 standard; protein; 105 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     97US-0065311P
97US-0066770P
98US-0075945P
98US-0078910P
98US-0083322P
98US-0084600P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     97US-0049787P.
97US-0062250P.
97WO-US020069.
97US-0065186P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20-NOV-2001; 2001US-00989731
                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 100.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             26-FEB-2003 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Human PRO1186 polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US2002103125-A1.
                                                                                                                                                                                                                                                                                                                                             Sequence 105 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    24-NOV-1997;
25-FEB-1998;
20-MAR-1998;
28-APR-1998;
07-MAY-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     16-JUN-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-AUG-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    17-0CT-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               05-NOV-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            12-NOV-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         13-NOV-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ABU13974;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ABU1397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ×855566666666666666666666666666888
                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                              쉽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
```

98US-0089440P. 98US-0089514P. 98US-0089538P 98US-0089599P 98US-0089600P 98US-0089653P 98US-0089801P 98US-0089907P 98US-0089908P 98WO-US019330 98WO-US021141 98WO-US025108 99WO-US012252

99WO-US028313

us-10-811-328-3.rag

```
The invention relates to an antibody that binds essentially to the epitope of endocrine gland-derived vascular endothelial growth factors (EG-VEGF) and is selected from anti-EG-VEGF monoclonal antibodies 1C6, 2A3, 2A8 and 4H9. The composition and methods are useful in regulating cellular proliferation and chemotaxis, e.g in treating conditions associated with hormone-producing tissue such as congenital adrenal hyperplasia, sexual maturation, precocious pubberty, McCume-Albright syndrome, hypogonadotropic hypogonadism, ovarian cyst, cancer such as androgen-dependent cancer or infertility. The present sequence represents the amino acid sequence of human endocrine gland-derived vascular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEBCHPGSHKVPFFRKRKHHTCP 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New anti-endocrine gland-derived vascular endothelial growth factor monoclonal antibodies 1C6, 2A3, 2A8 or 4H9, useful for regulating cellular proliferation and chemotaxis.
endocrine gland; vascular endothelial growth factor; ovarian cyst, cellular proliferation; chemotaxis; congenital adrenal hyperplasia; precocious puberty; McCune-Albright syndrome; cancer; infertility;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 105;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    / Match 100.0%; Score 498; DB 6; Local Similarity 100.0%; Pred. No. 9.1e-47; ns 86; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ħ,
                                                                                                                                                                                                                                                            /note= "N-myristoylated"
                                                                                                                                                                                                                                                                                               /note= "N-myristoylated"
                                                                                                                                                                                                                                                                                                                                       /note= "N-myristoylated"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Shek
                                                                                                                                                               1. .19
/note= "Signal peptide"
                                                                                                                                                                                                                      /note= "Mature EG-VEGF"
                                                                                                                                           Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Wood WI,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Example 1; Fig 2; 105pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99WS-0096146P.
99WS-US012252.
99US-0145698P.
99US-00380137.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2000WO-US008439.
2000US-0213637P.
2000US-0230978P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2000WO-US000219.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      19-DEC-2001; 2001US-00027603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2000US-00709238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000WO-US032678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2001US-00886242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 endothelial growth factor
                                                                androgen-dependent cancer
                                                                                                                                                                                                    20. .105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ວ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ferrara N, Watanabe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FERRARA N.
WATANABE C.
WOOD W I.
SHEK T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 2003-352707/33.
N-PSDB; ABX93675.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 105 AA;
                                                                                                                                                                                                                                                                                                                                                                            US2002192634-A1.
                                                                                                                                                                                                                                        Modified-site
                                                                                                                                                                                                                                                                               Modified-site
                                                                                                                                                                                                                                                                                                                     Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    23-JUN-2000;
07-SEP-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        05-JAN-2000;
24-FEB-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                30-MAR-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-DEC-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20-JUN-2001;
                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       08-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          25-AUG-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                  19-DEC-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 02-JUN-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   26-JUL-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                    Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (FERR/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (WATA/)
                                                                                                                                                             Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (MOOD/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SHEK/)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The present invention relates to the isolation of novel human PRO
polypeptides, and the polynucleotide sequences encoding them. The PRO
polypeptides are secreted and transmembrane proteins. The PRO
polypeptides are useful for detecting other PRO polypeptides, for linking
polypeptides are useful for detecting other PRO polypeptides, for linking
bloactive molecules to cells expressing PRO polypeptides, for modulating
conforming PRO polypeptides are useful as hybridisation probes, in
chromosome and gene mapping, in the generation of antisense RNA and DNA,
in the preparation of PRO polypeptides, for generating transgenic animals
con knockout animals, to construct hybridisation probes for mapping the
conforming mith genetic disorders, in gene therapy, for chromosome
conforming mith genetic disorders, in gene therapy, for chromosome
cidentification, as chromosome markers, and for generating probes for PRO
ABU14006 represent the human PRO polypeptides of the invention. Note: The
sequence data for this patent was obtained in electronic format directly
from the USPTO web site at seqdata.uspto.gov/psipsDIDEntry.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP 79
                                                                                                                                                                                                                                                              DL;
Godowski PJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                    Novel secreted and transmembrane polypeptide for modulating biological activity of cell expressing the polypeptide, identifying agonists or antagonists of polypeptide, and as molecular weight markers.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                     Paoni NF;
Wood WI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human endocrine gland-derived vascular endothelial growth factor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human; EG-VEGF; sexual maturation; hypogonadotropic hypogonadism;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 498; DB 6; Length 105; Pred. No. 9.1e-47;
                                                                                                                                                                                                                                                              Baker KP, Botstein D, Desnoyers L, Eaton
ong S, Gerber H, Gerritsen ME, Goddard A,
Gurney AL, Kljavin IJ, Napier MA, Pan J,
art TA, Tuma D, watanabe CK, Williams PM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9.1e-47;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%; Scor...
100.0%; Pred. No. 2...
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLPNLLCSRFPDGRYRCSMDLKNINF 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ABU08800 standard; protein; 105 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Claim 12; Fig 266; 649pp; English.
                                                                                                                                                                                                                                                                                                                     Tumas D,
                                                                              28-FEB-2001, 2001WO-US006520.
01-UTN-2001, 2001WO-US017800.
20-UTN-2001, 2001WO-US019692.
29-UTN-2001, 2001WO-US021066.
09-UUL-2001, 2001WO-US021106.
                          2000WO-US023328
2000WO-US030952
                                                                2000WO-US032678
                                                                                                                                                                                  28-AUG-2001; 2001US-00941992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             86; Conservative
                                                                                                                                                                                                                        (GETH ) GENENTECH LTD.
                                                                                                                                                                                                                                                                                                                                                                              WPI; 2003-102117/09.
N-PSDB; ABX64184.
                                                                                                                                                                                                                                                                                                                         Stewart TA,
                                                                                                                                                                                                                                                                                 Fong S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 105 AA;
                                                                                                                                                                                                                                                            Ashkenazi AJ,
Ferrara N, For
Grimaldi JC, C
                          24-AUG-2000;
08-NOV-2000;
01-DEC-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              02-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ABU08800;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                           Zhang Z;
                                                                                                                                                                                                                                                                                                                       Roy MA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 37
ABU08800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
```

ö

Gaps

**EXEXEXEX** 

g ઠે

```
New isolated PRO polypeptide useful for treating diabetes, rheumatoid arthritis, sports injuries, obesity, hearing loss in mammals, stroke, or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Baker KP, Beresini M, Deforge L, Desdoyers L, Filvaroff E, G
Gerritsen ME, Goddard A, Godowski PJ, Gurney AL, Sherwood S;
Smith V, Stewart TA, Tumas D, Watanabe CK, Wood WI, Zhang Z;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    18-FEB-2000; 2000WO-US004341.

18-FEB-2000; 2000WO-US004414.

22-FEB-2000; 2000WO-US004414.

24-FEB-2000; 2000WO-US004914.

24-FEB-2000; 2000WO-US005004.

01-MAR-2000; 2000WO-US005601.
          98US - 0072320P
98US - 0073612P
98US - 007409EP
98US - 0077491P
98US - 0079294P
98US - 0079294P
98US - 007963P
98US - 0090165P
98US - 0080165P
98WO - US012456
98WO - US012456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        05-JAN-2000; 2000WO-US000219
06-JAN-2000; 2000WO-US000277,
06-JAN-2000; 2000WO-US000376,
11-FEB-2000; 2000WO-US003565.
                                                                                                                                                     98WO-US018824.
                                                                                                                                                                                                                                                                                                                                                                                                                        99WO-US028313
99WO-US028409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99WO-US028565
99WO-US030095
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99WO-US030999
                                                                                                                                                                           98WO-US019094
                                                                                                                                                                                       98WO-US019177
                                                                                                                                                                                                 98WO-US019330
                                                                                                                                                                                                            98WO-US019437
                                                                                                                                                                                                                       98WO-US021141
98WO-US022991
                                                                                                                                                                                                                                             98WO-US022992
                                                                                                                                                                                                                                                         98WO-US024855
                                                                                                                                                                                                                                                                 98WO-US025108
99WO-US000106
                                                                                                                                                                                                                                                                                       99WO-US005028
                                                                                                                                                                                                                                                                                                   99WO-US005190
                                                                                                                                                                                                                                                                                                             99WO-US008615
                                                                                                                                                                                                                                                                                                                        99WO-US010733
                                                                                                                                                                                                                                                                                                                                   99WO-US012252
                                                                                                                                                                                                                                                                                                                                               99WO-US020111
                                                                                                                                                                                                                                                                                                                                                       99WO-US020594
99WO-US020944
                                                                                                                                                                                                                                                                                                                                                                              99WO-US021090
                                                                                                                                                                                                                                                                                                                                                                                          99WO-US021547
                                                                                                                                                                                                                                                                                                                                                                                                   99WO-US023089
                                                                                                                                                                                                                                                                                                                                                                                                               99WO-US028214
                                                                                                                                                                                                                                                                                                                                                                                                                                               99WO-US028301
                                                                                                                                                                                                                                                                                                                                                                                                                                                          99WO-US028634
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    99WO-US028551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99WO-US028564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99WO-US030911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99WO-US031243
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               99WO-US031274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      02-MAR-2000; 2000WO-US005746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2003-352836/33.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N-PSDB; ACA67228.
                                                                                                                                                                                                                                                                                                                                                                                                                                            01-DEC-1999;
01-DEC-1999;
02-DEC-1999;
02-DEC-1999;
02-DEC-1999;
16-DEC-1999;
30-DEC-1999;
30-DEC-1999;
16-DEC-1997;
23-JAN-1998;
04-FEB-1998;
09-FEB-1998;
10-MAR-1998;
27-MAR-1998;
27-MAR-1998;
31-MAR-1998;
31-MAR-1998;
31-MAR-1998;
31-MAR-1998;
14-JUL-1998;
14-SEP-1998;
14-SEP-1998;
14-SEP-1998;
16-SEP-1998;
17-SEP-1998;
17-SEP-1998;
17-SEP-1998;
17-SEP-1998;
17-SEP-1998;
17-SEP-1998;
16-SEP-1998;
16-SEP-1999;
16-SEP-1999;
16-SEP-1999;
16-MAR-1999;
16-MAR-1999;
16-MAR-1999;
16-MAR-1999;
16-MAR-1999;
16-MAR-1999;
                                                                                                                                                                                                                                                                                                                                             01-SEP-1999;
08-SEP-1999;
13-SEP-1999;
15-SEP-1999;
15-SEP-1999;
                                                                                                                                                                                                                                                                                                                                                                                                   05-OCT-1999
29-NOV-1999
                                                                                                                                                                                                                                                                                                                                                                                                                         30-NOV-1999
30-NOV-1999
  79
                                                                                                                                                                                                  Human; PRO polypeptide; secreted and transmembrane protein; anti-PRO antibody; diagnostic assay; gene expression; diabetes; bone disorder; cartilage disorder; rheumatoid arthritis; obssity; sports injury; osteoarthritis; hyper-insulinaemia; hypo-insulinaemia; hearing loss; coagulation disorder; stroke; heart attack; cardiant; antidiabetic; anorectic; vulnerary; antiarthritic; osteopathic; antirheumatic; auditory; cerebroprotective; angiogenic.
 CLPNLLCSRFPDGRYRCSMDLKNINF 86
                                                                                                              Ą
                                                                                                              ABU81104 standard; protein; 105
                                                                                                                                                                                                                                                                                                                                                                               970S-0049911P

970S-0059113P

970S-0059113P

970S-0059113P

970S-0059122P

970S-0059184P

970S-0059263P

970S-0059368P

970S-006288B

970S-006288B

970S-006288B

970S-006281B

970S-006281B

970S-006281B

970S-006312P

970S-006313P

970S-006631P

970S-006631P

970S-006631P

970S-006631P
                                                                                                                                                                                                                                                                                                                                                            19-DEC-2001; 2001US-00028072
                                                                                                                                                                              Human PRO polypeptide #235
                                                                                                                                                         (first entry)
                                                                                                                                                                                                                                                                                                                US2003004311-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         19-SEP-1997;
19-SEP-1997;
19-SEP-1997;
17-OCT-1997;
17-OCT-1997;
17-OCT-1997;
24-OCT-1997;
24-OCT-1997;
24-OCT-1997;
24-OCT-1997;
24-OCT-1997;
24-OCT-1997;
24-OCT-1997;
24-OCT-1997;
25-OCT-1997;
29-OCT-1997;
29-OCT-1997;
29-OCT-1997;
29-OCT-1997;
29-OCT-1997;
29-OCT-1997;
29-OCT-1997;
                                                                                                                                                                                                                                                                                           Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                           17-SEP-1997;
17-SEP-1997;
                                                                                                                                                        23-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               17-NOV-1997
21-NOV-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                  17-SEP-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          07-NOV-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     12-NOV-1997
                                                                                                                                                                                                                                                                                                                                                                                18-JUN-1997
26-AUG-1997
                                                                                                                                                                                                                                                                                                                                      02-JAN-2003
                                                                                                                                                                                                                                                                                                                                                                                                       17-SEP-1997
                                                                                                                                                                                                                                                                                                                                                                                                                 17-SEP-1997
                                                                                                                                   ABU81104;
              20
                                   61
                                                      80
                                                                                        RESULT 38
                                                                                                    ABU81104
                                                                                                                         ò
```

3 Gao

```
98US-0084600P.
98US-0087106P.
98US-0087607P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             97WO-US020069.
97US-0065186P.
97US-0065311P.
97US-0066770P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              98US-0075945P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                98US-0078910P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       98US-0087609P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            98US-0087759P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             98US-0087827P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      98US-0088025P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    97US-0049787P
97US-0062250P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            98US-0088028P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19-NOV-2001; 2001US-00989734
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           17-JUN-2003 (first entry)
                                                                                                                                                                                                                                                                                                                    Ouery Match
Best Local Similarity 100.
Matches 86; Conservative
                                                                                                                                                                                                                                                                                      Sequence 105 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US2003003531-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 drug screening
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      04-JUN-1998;
04-JUN-1998;
04-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       02-JAN-2003.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           24-NOV-1997;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 25-FEB-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20-MAR-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         28-APR-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          07-MAY-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                28-MAY-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       02-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               05-NOV-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        13-NOV-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       12-NOV-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              L7-0CT-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ABU72559;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       80
ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The present invention relates to the isolation of novel human PRO polypeptides, and the polynuclectide sequences encoding them. The PRO polypeptides are secreted and transmembrane proteins. The PRO polypeptides are secreted and transmembrane proteins. The PRO polypeptides and polynuclectides are useful for preparing a medicament useful in the treatment of diabetes, bone and/or cartilage disorders (e.g. rheumatoid arthritis, sports injuries, osteoarthritis), obesity, hyper- or hypo-insulinaemia, hearing loss, and coagulation disorders (e.g. stroke, heart attack). Anti-PRO antibodies are useful in diagnostic assays for PRO, by detecting its expression in specific cells, tissues or serum, and for affinity purification of PRO from recombinant cell culture or natural sources. ABUS0870-ABUS1144 represent the human PRO polypeptides of the invention. Note: The sequence data for this patent was obtained in electronic formet directly from the USPTO web site at sequence cata its at the sequence cata for attack and cata for this patent cata uspto.gov/psipsDIDEntry.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Novel isolated nucleic acid molecule that encodes a Zvenl polypeptide, useful for inhibiting the proliferation of tumor cells, or to detect the expression of a Zvenl or Zven2 gene in a biological sample.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP 79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The invention relates to an isolated nucleic acid molecule (I) that
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 498; DB 6; Length 105; Pred. No. 9.1e-47;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ٥;
                                                                                                                                                                                                                                                                                                                                                                                                            100.0%; Sco...
100.0%; Pred. No. ...
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 CLPNLLCSRFPDGRYRCSMDLKNINF 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ABU07603 standard; protein; 105 AA
                                      Claim 12; Fig 470; 643pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Disclosure; Col 3; 37pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            25-FEB-2000; 2000US-0184875P.
19-APR-2000; 2000US-0197750P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99US-0165905P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000US-0210332P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                14-NOV-2000; 2000US-00712529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N-PSDB; ABX12104, ABX12105.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity 100.
Matches 86; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (ZYMO ) ZYMOGENETICS INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sheppard PO, Bishop PD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human; ZVEN2; tumour.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2003-287426/28
                                                                                                                                                                                                                                                                                                                                                                                             Sequence 105 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US6485938-B1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        16-NOV-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       07-JUN-2000;
heart attack
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             10-MAY-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         26-NOV-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Human ZVEN2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ABU07603;
                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABU07603

IID ABU0

XX

XX

ABU0

AB
유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
```

```
encodes a Zvenl polypeptide. (I) is useful for inhibiting the proliferation of tumour cells, as probes or primers to clone 5' noncoding regions of a Zven gene, to direct the expression of heterologous gene in tissues of, for example, transgenic animals or patients treated with gene therapy, to detect the expression of a Zvenl or Zvenl gene in biological sample, to detect activated neutrophils, to identify therapeutic or prophylactic agents that medulate the response of a neutrophil to a pathogen, to determine whether a subject's chromosomes contain a mutation in the Zven gene, or to detect aberrations in Zvenl or Zvenl locus. (I) is useful as educational tools, as laboratory practicum kits for courses related to genetics and molecular biology, protein chemistry and antibody production and analysis. The present sequence represents the amino acid sequence of ZVENZ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human; secreted and transmembrane protein; cytostatic; anti-HIV; virucide; hepatotropic; antiinflammatory; neuroprotective; gene therapy; yets); pharmaceutical; diagnostic; biosensor; bioreactor; malignancy; cancer; covarian cancer; colorectal cancer; Kaposi's sarcoma; leukaemia; lymphoma; hepatitis B; multiple sclerosib; Crohn's disease;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEBCHPGSHKVPFFRKRKHHTCP 79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 105;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Novel human secreted and transmembrane protein PRO1186.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%; Score 498; DB 6;
100.0%; Pred. No. 9.1e-47;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLPNLLCSRFPDGRYRCSMDLKNINF 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLPNLLCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ABU72559 standard; protein; 105 AA
```

```
98US-0088029P.
98US-0088030P.
98US-0088032EP.
98US-008832EP.
98US-0088217P.
98US-0088718P.
98US-008851P.
98US-008851P.
98US-008851P.
98US-008951P.
98US-0089518P.
98US-0089518P.
98US-0089518P.
98US-0089518P.
98US-0089518P.
98US-0089518P.
98US-0089518P.
98US-0089518P.
98US-0089518P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000WO-US006319.
2000WO-US006884.
2000WO-US007377.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2000WO-US004414.
2000WO-US004914.
2000WO-US005004.
2000WO-US005841.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99WO-US028634.
99WO-US030095.
99WO-US030911.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2000WO-US014941.
2000WO-US015264.
2000WO-US020710.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99WO-US005028.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99WO-US021090.
99WO-US021547.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2000WO-US013705
2000WO-US014042
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2000WO-US023328
2000WO-US030952
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2001WO-US021735
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      98WO-US025108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99WO-US000106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           99WO-US028313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          99WO-US028301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2000WO-US000219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2000WO-US000376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2000WO-US003565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2000WO-US004341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2000WO-US008439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2000WO-US013358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000WO-US022031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2000WO-US023522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2001WO-US021066
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             06-JAN-2000;
11-FEB-2000;
22-FEB-2000;
24-FEB-2000;
24-FEB-2000;
24-FEB-2000;
10-MAR-2000;
15-MAR-2000;
15-MAY-2000;
30-MAY-2000;
30-MAY-2000;
31-MAY-2000;
31-MA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 17-JUN-1998;
18-JUN-1998;
18-JUN-1998;
                                                                                                                                                                                                                                                                                                                                            16-JUN-1998;
16-JUN-1998;
17-JUN-1998;
04 - JUN - 1998;
04 - JUN - 1998;
04 - JUN - 1998;
05 - JUN - 1998;
10 - JUN - 1998;
110 - JUN - 1998;
110 - JUN - 1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -DEC-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               05-JAN-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      07-OCT-1998;
01-DEC-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -JAN-1999;
                                                                                                                                                                                                      10-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6-SEP-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        08-MAR-1999;
02-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           30-NOV-1999;
01-DEC-1999;
                                                                                                                                                                                                                                                                                                                                                                                                 17-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                               17-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8-JUN-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LS-SEP-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEP-1999
                                                                                                                                                                                                                                                                                                            12-JUN-1998
16-JUN-1998
                                                                                                                                                                                                                                                                            11-JUN-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      17-SEP-
```

```
The invention describes a new isolated nucleic acid molecule comprising the full length coding sequence of the DNA deposited with the American CTYPE COLICUTE COLICUT
                                                                                                                                                                                                                                                                                                                                                                                                                                        New genes and secreted and transmembrane polypeptides (e.g. PRO183 or PRO184), useful for treating or diagnosing e.g. ovarian cancer, Kaposi's sarcoma, leukemia, lymphoma, hepatitis B, multiple sclerosis or Crohn's
                                                                                                                           Ashkenazi AJ, Baker KP, Botstein D, Desnoyers L, Eaton DL;
Ferrara N, Fong S, Gerber H, Gerriteen ME, Goddard A, Goddowski PJ;
Grimaldi JC, Gurney AL, Kljavin IJ, Napier MA, Pan J,
Roy MA, Stewart TA, Tunas D, Watanabe CK, Williams PM, Wood WI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
100.0%; Score 498; DB 6; Length 105;
Best Local Similarity 100.0%; Pred. No. 9.1e-47;
Matches 86; Conservative 0; Mismatches 0; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 12; Fig 266; 663pp; English.
28-AUG-2001; 2001US-00941992.
                                                                    (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                          WPI; 2003-352829/33.
N-PSDB; ACA64406.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 105 AA;
                                                                                                                                                                                                                                            Roy MA,
Zhang Z;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                disease
```

Search completed: November 7, 2005, 20:56:08 Job time : 124.533 secs

CLPNLLCSRFPDGRYRCSMDLKNINF 105 CLPNLLCSRFPDGRYRCSMDLKNINF 86

61 80

윤 ଚ

8

ö

20 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKKKHHTCP 79

1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP

THIS PAGE BLANK (USPTO)

```
November 7, 2005, 20:49:21; Search time 30.8982 Seconds (without alignments) 207.773 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                          1 AVITGACERDVQCGAGTCCA.......SRFPDGRYRCSMDLKNINF 86
                                                                                                                                                                                                                                                                                                                                                                                      513545
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                        Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                  513545 segs, 74649064 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                - protein search, using sw model
                                                                                                                                                                                                                                                                                    BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                  US-10-811-328-3
498
                                                                                                                                                                                                      Title:
Perfect score:
                                                                                                                                                                                                                                                                                      Scoring table:
                                                                                OM protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Database :
                                                                                                                                                                                                                                                Sequence:
                                                                                                                                                                                                                                                                                                                                                  Searched:
                                                                                                                          Run on:
```

Score Match Length DB ID

498 100.0 105 4 US-09-712-529-5
498 100.0 105 4 US-09-712-529-5
58quence 5, Appli
498 100.0 105 4 US-10-212-201A-5
58quence 5, Appli
498 100.0 105 4 US-10-212-201A-5
58quence 5, Appli
498 100.0 105 4 US-10-212-255-5
58quence 5, Appli
291 58.4 108 4 US-09-513-999C-4698
58quence 2, Appli
291 58.4 108 4 US-10-212-251-2
291 58.4 108 4 US-10-212-355-2
291 58.4 108 4 US-10-214-1-1
201 20.5 20.7 3 US-09-16-741-14
Sequence 11, Appli
100.5 20.2 350 3 US-09-16-241-9
Sequence 236, App
100.5 20.2 350 4 US-09-990-16-872
20.2 350 4 US-09-990-13-634-236
Sequence 236, App
200.5 350 4 US-09-905-125-236
Sequence 236, App
200.5 350 4 US-09-905-125-3
200.7 350 4 US-09-905-125-3
200.7 350 4 US-09-905-125-3
200.7 350 4 US-09-905-381-336
Sequence 236, App
200.5 20.2 350 4 US-09-905-381-356
Sequence 236, App
200.5 20.5 350 4 US-09-905-381-356
Sequence 236, App
200.5 20.5 350 4 US-09-905-381-356
Sequence 236, App
200.5 20.5 350 4 US-09-905-381-36
Sequence 236, App
200.5 20.5 350 4

SUMMARIES

Result

Sequence 8, Appli Sequence 1086, Appl Sequence 1, Appli Sequence 1, Appli Sequence 13, Appli Sequence 5, Appli Sequence 5, Appli Sequence 4, Appli Sequence 5, Appli Sequence 13, Appli Sequence 13, Appli Sequence 13, Appli Sequence 13, Appli Sequence 13, Appli Sequence 13, Appli Sequence 9, Appli Sequence 9, Appli Sequence 9, Appli Sequence 48, Appli Sequence 48, Appli Sequence 48, Appli Sequence 48, Appli		Length 105; Indels 0; Gaps 0; ECHPGSHKVPFPRKRKHHTCP 60	
US-09-161-241-8 US-09-161-241-10 US-09-976-594-1086 US-09-976-597-1 US-09-647-997-1 US-09-49-016-11293 US-08-219-2378-5 US-08-477-13 US-08-477-13 US-08-468-560-5 US-08-468-560-5 US-08-90-909-4 US-09-800-908-13 US-09-523-33-54 US-09-232-0878-9 US-08-232-0878-9 US-08-232-0878-9 US-08-232-0878-9 US-08-232-0878-9 US-08-232-0878-9 US-08-232-0878-9 US-08-232-0878-9 US-08-232-0878-9 US-08-232-0878-9 US-08-232-0878-9	ALIGNMENTS 9712529 O. ore E. P. Zven Proteins US/09/712,529 11-14 lows Version 3.0	100.0%; Score 498; DB 4; Length 105; conservative 0; Mismatches 0; Indels 0; Gaps AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRHHTCP AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRHHTCP CLPNLLCSRFPDGRYRCSMDLKNINF 86  CLPNLLCSRFPDGRYRCSMDLKNINF 86  CLPNLLCSRFPDGRYRCSMDLKNINF 105	212201A re E. P. en Proteins en P/10/212,201A 8-02 /09/712,529
266 3 3 4 4 4 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1	RESULT 1  US-09-712-529-5  Sequence 5, Application US/09712529  Patent No. 6485298  GENERAL INFORMATION: APPLICANT: Sheppard, Paul O. APPLICANT: Withmore, Theodore E. APPLICANT: Thompson, Penny P. TITLE OF INVENTION: Human Zven Proteins FILE REPERBENCE: 99-81  CURRENT PILING DATE: 2000-11-14  NUMBER OF SEQ ID NOS: 7  SOFTWARE: FastSEQ for Windows Version 3  SEQ ID NO 5  LENGTH: 105  LENGTH: 105  TYPE: RR	imilarity 100.0%; Score conservative 0; Miss AVITGACERDVQCGACTCCAISLWLRC AVITGACERDVQCGACTCCAISLWLRC CLPNLLCSRFPDGRYRCSMDLKNINF CLPNLLCSRFPDGRYRCSMDLKNINF CLPNLLCSRFPDGRYRCSMDLKNINF	SULT 2 Sequence 5, Application US/10212201A Patent No. 6756479 GENERAL INFORMATION: APPLICANT: Sheppard, Paul D. APPLICANT: Hishop, Paul D. APPLICANT: Withence, Theodore E. APPLICANT: Whitence, Theodore E. APPLICANT: Hompson, Penny P. TITLE OF INVENTION: Human Zven Proteins FILE REFERENCE: 99-81 CURRENT FILING DATE: 2002-08-02 PRIOR FILING DATE: 2002-08-02 PRIOR FILING DATE: 2000-11-14 NUMBER OF SEQ ID NOS: 7
98.5 97.5 97.5 97.5 97.5 97.5 97.5 97.5 97	TLT 1 19-712-529-5 squence 5, Applitent No. 64859 NNERAL INFORMATI NPELICANT: Sheg RPPLICANT: Big RPPLICANT: Thou RPPLICANT: 105 RPPLICANT: 10	Query Match Best Local Similarity Matches 86; Conser Matches 1 AVITGACER 20 AVITGACER 61 CLPNLLCSR 1	KESULT 2 US-10-212-201A-5 ; Sequence 5, Appl ; Patent No. 67564 ; GRUERAL INFORMAT APPLICANT: SHE ; APPLICANT: BIS ; APPLICANT: Whi APPLICANT: Tho ; TILE REFERENCE: CURRENT APPLICA ; CURRENT APPLICAN ; FILE REFERENCE: ; CURRENT APPLICAT ; FILE REFERENCE: ; FILE
	RESULT US-09- 1 Seque 1 Seque 1 GENE 1 APP 1 APP 1 TIT 1 TIT 1 SEQUE 1	Ques Best Matr Qy Db Qy	RESULT SEQUENCE OF

```
NAME/KEY: SIGNAL
LOCATION: -19..-1
NAME/KEY: UNSURE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME/KEY: SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-513-999C-4698
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ç 80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 C 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQ ID NO 4698
LENGTH: 80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 6
US-09-712-529-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                     а
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         엄
                                                                                                                                                                                                  ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                          1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP 79
                                                                                                                                                                                                                                                                     20 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP 79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP 60
                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                  ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                     Query Match 100.0%; Score 498; DB 4; Length 105; Best Local Similarity 100.0%; Pred. No. 3.6e-51; Matches 86; Conservative 0; Mismatches 0; Indels (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 105;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 4

US-09-621-976-5350

Sequence 5350, Application US/09621976

Patent No. 6639063

GENERAL INFORMATION:
APPLICANT: Dumas Milne Edwards, J.B.
APPLICANT: Glordano, J.Y.
TITLE OF INVENTION: ESTS and Encoded Human Proteins.
FILE REFERENCE: GENSET. 054PR2.
CURRENT APPLICATION NUMBER: US/09/621,976
CURRENT APPLICATION NUMBER: US/09/621,976

CURRENT APPLICATION NUMBER: US/09/621,976

CURRENT APPLICATION NUMBER: US/09/621,976

SOFTWARE: Patent.pm

SEQ ID NOS: 19335

SEQ ID NOS: 19306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
100.0%; Score 498; DB 4;
Best Local Similarity 100.0%; Pred. No. 3.6e-51;
Matches 86; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Sheppard, Paul O.
APPLICANT: Bishop, Paul D.
APPLICANT: Whitmore, Theodore E.
APPLICANT: Thompson, Penny P.
ITILE OF INVENTION: Human Zven Proteins
FILE REFERENCE: 99-81
CURRENT APPLICATION NUMBER: US/10/212,355
CURRENT APPLICATION NUMBER: US/10/212,355
CURRENT FILING DATE: 2002-08-02
NUMBER OF SEQ ID NOS: 7
SOFTWARE: FastSEQ for Windows Version 3.0
SSOFTWARE: FastSEQ for Windows Version 3.0
SOFTWARE: FastSEQ for Windows Version 3.0 SEQ ID NO 5
LENGTH: 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             80 CLPNLLCSRFPDGRYRCSMDLKNINF 105
                                                                                                                                                                                                                                                                                                                                                      80 CLPNLLCSRFPDGRYRCSMDLKNINF 105
                                                                                                                                                                                                                                                                                                                             61 CLPNLLCSRFPDGRYRCSMDLKNINF 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61 CLPNLLCSRFPDGRYRCSMDLKNINF 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 5, Application US/10212355
Patent No. 6828425
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: PRT
ORGANISM: Homo sapiens
FEATURE:
                                                                   TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM: Homo sapiens
                                                                                                         US-10-212-201A-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-10-212-355-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-212-355-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          임
                                                                                                                                                                                                                                                                                   엄
                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                             ઠે
```

```
US-09-513-999C-4698
; Sequence 4698, Application US/09513999C
; Patent No. 678364;
; APPLICANT: Dundas Milne Edwards, J.B.
; APPLICANT: Duclert, A.;
; APPLICANT: Duclert, A.;
; TITLE OF INVENTION: Expressed Sequence Tags and Encoded Human Proteins.; PLECT INVENTION: Expressed Sequence Tags and Encoded Human Proteins.; PLECT INVENTION: Expressed Sequence Tags and Encoded Human Proteins.; PLECT REPERENCE: 59.US2.REG; CURRENT APPLICATION NUMBER: US/09/513,999C
; CURRENT FILING DATE: 2000-02-24
; PRIOR FILING DATE: 1999-02-26
; NUMBER OF SEQ ID NOS: 36681
; SOFTWARE: PATENT PATENT.
                                                                                                                                                                                                                                                1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP 60
                                                                                                                                                                                                                                                                            20 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGRKXEECHPGSHKIPFFRKRKHHTCP 79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEBCHPGSHKIPFFRKRKHHTCP 79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                     ;
0
                                                                                                                      Query Match 97.6%; Score 486; DB 4; Length 105; Best Local Similarity 96.5%; Pred. No. 9.4e-50; Matches 83; Conservative 2; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 71.7%; Score 357; DB 4; Length 80; Best Local Similarity 98.4%; Pred. No. 1e-34; Matches 60; Conservative 1; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 2. Application US/09712529
; Patent No. 6485938
; GENERAL INFORMATION:
    APPLICANT: Sheppard, Paul O.
; APPLICANT: Bishop, Paul D.
; APPLICANT: Thompson, Penny P.
; TITLE OF INVENTION: Human Zven Proteins
; FILE REFERENCE: 99-81
; CURRENT APPLICATION NUMBER: US/09/712,529
                                                                                                                                                                                                                                                                                                                                                                                                      80 CLPNLLCSRFPDGRYRCSMDLKNINF 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LOCATION: -19..-1
OTHER INFORMATION: SCORE 7.2
OTHER INFORMATION: SEG VSIMLLLVTVSDC/AV
                                                                                                                                                                                                                                                                                                                                                                    61 CLPNLLCSRFPDGRYRCSMDLKNINF 86
TYPE: PRT
ORGANISM: Homo sapiens
```

```
US-09-161-241-14
                                                                 ; ORGANISM: HC
US-10-212-355-2
                   LENGTH: 108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQ ID NO 14
                                        TYPE: PRT
SEQ ID NO 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                    ВÞ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 AVITGACERDVOCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    28 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPWGKLGDSCHPLTRKVPFFGRRMHTCP 87
                                                                                                                                                                                                                                                                  1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP 60
                                                                                                                                                                                                                                                                                       28 AVITGACDKDSQCGGGACCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP 87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 58.4%; Score 291; DB 4; Length 108; Best Local Similarity 58.4%; Pred. No. 8.3e-27; Matches 45; Conservative 14; Mismatches 18; Indels
                                                                                                                                                                               ch 58.4%; Score 291; DB 4; Length 108; 1. Similarity 58.4%; Pred. No. 8.3e-27; 45; Conservative. 14; Mismatches 18; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Sheppard, Paul O.
APPLICANT: Bishop, Paul D.
APPLICANT: Whitmore, Theodore E.
APPLICANT: Thompson, Penny P.
TILE OF INVENTION: Human Zven Proteins
FILE REFERENCE: 99-81
CURRENT APPLICATION NUMBER: US/10/212,201A
CURRENT FILING DATE: 2002-08-02
PRIOR PILING DATE: 2000-11-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 2, Application US/10212355
; Betent No. 6828425
; GENERAL INFORMATION:
    APPLICANT: Bishop, Paul O.
    APPLICANT: Mitmore, Theodore E.
    APPLICANT: Thompson, Penny P.
    TITLE OF INVENTION: Human Zven Proteins
; FILE REFERENCE: 99-81
    CURRENT FILING DATE: 2002-08-02
                           NUMBER OF SEQ ID NOS: 7
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 2
LENGTH: 108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQ 1D NOS: 7
SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQ ID NOS: 7
SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 2, Application US/10212201A Patent No. 6756479 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            88 CLPGLACLRISFNRFIC 104
                                                                                                                                                                                                                                                                                                                                                                                            88 CLPGLACLRTSFNRFIC 104
        2000-11-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61 CLPNLLCSRFPDGRYRC 77
                                                                                                                                                                                                                                                                                                                                                      61 CLPNLLCSRFPDGRYRC 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM: Homo sapiens
                                                                                                           TYPE: PRT
ORGANISM: Homo sapiens
        CURRENT FILING DATE:
                                                                                                                                                                                     Query Match
Best Local Similarity
Matches 45; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-212-201A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQ ID NO 2
LENGTH: 108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-10-212-355-2
                                                                                                                                               US-09-712-529-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                            δ
```

```
CARDEMAL INCRMANTION:

APPLICANT: VENTER, J. Craig et al.

TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

FILTE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

FILE REPRENCE: CLOO1307

CURRENT TRIING DATE: 2000-04-14

PRIOR APPLICATION NUMBER: 60/241,755

PRIOR FILING DATE: 2000-10-03

PRIOR FILING DATE: 2000-10-03

PRIOR FILING DATE: 2000-00-08

PRIOR FILING DATE: 2000-09-08

RIGH APPLICATION NUMBER: 60/231,498

PRIOR FILING DATE: 2000-09-08

RUMBER OF SEQ ID NOS: 207012

SOFFTWARE: FASLSEQ for Windows Version 4.0

SEQ ID NO 7146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   6 ACERDVOCGAGICCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCPCLPNL 65
                                                                                                                                                          9
                                                                                                                                                                                                      87
                                                                                                                                                        1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                 28 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3;
                                                                                                          .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 107.5; DB 3; Length 224; Pred. No. 7.2e-05; 5; Mismatches 32; Indels 3.
                                                          58.4%; Score 291; DB 4; Length 108; 58.4%; Pred. No. 8.3e-27; ive 14; Mismatches 18; Indels
                                                                                                                                                                                                                                                                                                                                                                                               US-09-161-241-14
; Sequence 14, Application US/09161241
; Patent No. 644541
; GENERAL INFORMATION:
; APPLICANT: Bass, Michael B
; APPLICANT: Mong, Daguard
; APPLICANT: Mong, Daguard
; TILE REFERENCE: A-548
; CURRENT APPLICATION UNMBER: US/09/161,241
; CURRENT FILING DATE: 1998-09-25
; NUMBER OF SEQ ID NOS: 78
; SOFTWARE: PATENTIN VET. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; Sequence 7146, Application US/09949016; Patent No. 6812339; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                              88 CLPGLACLRISFNRFIC 104
                                                                                                                                                                                                                                                              61 CLPNLLCSRFPDGRYRC 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            21.6%;
35.5%;
                                                                                                                  45; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 35.5
Matches 22; Conservative
ORGANISM: Homo sapiens
                                                       Query Match
Best Local Similarity
Matches 45; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           201 LC 202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               66 LC 67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM: Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-949-016-7146
```

d

ò ద

```
US-09-949-016-6872

Sequence 6872, Application US/09949016

Patent No. 6812339

GENERAL INFORMATION:

APPLICANT: VENTER, J. Craig et al.

TITLE OF INVENTION: POLYMORPHIGNS IN KNOWN GENES ASSOCIATED

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF

CURRENT APPLICATION NUMBER: 60/29/99,016

CURRENT APPLICATION NUMBER: 60/29/768

PRIOR FILING DATE: 2000-10-03

PRIOR FILING DATE: 2000-10-03

PRIOR FILING DATE: 2000-09-08

NUMBER OF SEQ ID NOS: 207012

SOFTWARE: FastSEQ for Windows Version 4.0

SEQ ID NO 6872
                                                                                                                             7 CERDVQCGAGTCCAISLWLRGLRMCTPLGREGEEC----HPGSHKVPFFRKRKHHTCPCL 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      7 CERDVQCGAGTCCAISLWLRGLRMCTPLGREGEEC----HPGSHKVPFFRKRKHHTCPCL 62
                                                 Gaps
Query Match 20.5%; Score 102; DB 3; Length 259; Best Local Similarity 31.5%; Pred. No. 0.00037; Matches 23; Conservative 8; Mismatches 30; Indels 12;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20.5%; Score 102; DB 4; Length 259; 31.5%; Pred. No. 0.00037; ive 8; Mismatches 30; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20.3%; Score 101; DB 3; Length 259;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 11, Application US/09161241
; Sequence 11, Application US/09161241
; Patent No. 6344541
; GENERAL INFORMATION:
; APPLICANT: Bass, Michael B
; APPLICANT: Sullivan, John K
; APPLICANT: Thelll, Lars E
; APPLICANT: Thelll, Lars E
; APPLICANT: Wang, Daguang
; TITLE OF INVENTION: NOVEL DKR POLYPEPTIDES
; TITLE OF INVENTION: NOWEL DKR POLYPEPTIDES
; CURRENT FILING DATE: 1998-09-25
; NUMBER OF SEQ ID NOS: 78
; SOFTWARE: PATENTION OFF. 2.0
; SEQ ID NO 11
; LENGTH: 259
; TYPE: PRT
                                                                                                                                                                                                                                  235 KGLSCKVWKDATY 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             235 KGLSCKVWKDATY 247
                                                                                                                                                                                          63 PNLLCSRFPDGRY 75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       23; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 63 PNLLCSRFPDGRY 75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: PRT
ORGANISM: Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ORGANISM: Mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-949-016-6872
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-161-241-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                               ઠે
                                                                                                                                         ద
                                                                                                                                                                                          ð
                                                                                                                                                                                                                                  q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                            110 CLRSSDCIEGFCCARHFW---TKICKPVLHQGEVCTKQRKKGSHGLEIFQR-----CDCA 161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       7 CERDVQCGAGTCCAISLWLRGLRMCTPLGREGEEC----HPGSHKVPFFRKRKHHTCPCL 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            7 CERDVQCGAGTCCAISLWLRGLRMCTPLGREGEEC----HPGSHKVPFFRKRKHHTCPCL 62
                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                12;
                                                                                                                                                                  30, Indels 12,
                                                                                                                 Score 102; DB 4; Length 186;
Pred. No. 0.00026;
8; Mismatches 30; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 207;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              30; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 20.5%; Score 102; DB 3; Best Local Similarity 31.5%; Pred. No. 0.00029; Matches 23; Conservative 8; Mismatches 30.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Bass, Michael B
APPLICANT: Sullivan, John K
APPLICANT: Sullivan, John K
APPLICANT: Harbill, Lars E
APPLICANT: Wang, Daguang
TITLE OF INVENTION: NOVEL DKR POLYPEPTIDES
FILE REFERENCE: A-548
CURRENT APPLICATION NUMBER: US/09/161,241
CURRENT FILING DATE: 1998-09-25
NUMBER OF SEQ ID NOS: 78
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 12
LENGTH: 259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION NUMBER: US/09/161,241
CURRENT FILING DATE: 1998-09-25
NUMBER OF SEQ ID NOS: 78
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 13
LENGTH: 207
TYPE: PT
ORGANISM: Human
US-09-161-241-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL INFORMATION:
APPLICANT: Bass, Michael B
APPLICANT: Sullivan, John K
APPLICANT: Theill, Lars E
APPLICANT: Wang, Daguang
TITLE OF INVENTION: NOVEL DKR POLYPEPTIDES
FILE REFERENCE: A-548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 12, Application US/09161241
Patent No. 6344541
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 13, Application US/09161241
Patent No. 6344541
                                                                                                                   Query Match
Best Local Similarity 31.5%;
Matches 23; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    183 KGLSCKVWKDATY 195
                                                                                                                                                                                                                                                                                                                                                     162 KGLSCKVWKDATY 174
                                                                                                                                                                                                                                                                                                            63 PNLLCSRFPDGRY 75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       63 PNLLCSRFPDGRY 75
; LENGTH: 186
; TYPE: PRT
; ORGANISM: Human
US-09-949-016-7146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; TYPE: PRT
; ORGANISM: Human
US-09-161-241-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-161-241-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-161-241-12
```

ద ò 셤

```
Appl
Appl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Appli
Appli
Appli
Appli
Appli
Appli
Appli
Appli
                                                                                                           ; Search time 116.383 Seconds (without alignments) 309.179 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 3,
                                                                                                                                                                                                                                1 AVITGACERDVQCGAGTCCA......CSRFPDGRYRCSMDLKNINF 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 3
Sequence 2
Sequence 2
Sequence 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 3
Sequence 3
Sequence 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence Sequence 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Published Applications AA:*

| cgn2 6/ptodata//pubpaa/USO7_PUBCOMB.pep:*
2: /cgn2 6/ptodata//pubpaa/USO6_NEW_PUB.pep:*
3: /cgn2 6/ptodata//pubpaa/USO6_PUBCOMB.pep:*
4: /cgn2 6/ptodata//pubpaa/USO6_PUBCOMB.pep:*
5: /cgn2 6/ptodata//pubpaa/USO6_PUBCOMB.pep:*
6: /cgn2 6/ptodata//pubpaa/USO8_PUBCOMB.pep:*
7: /cgn2 6/ptodata//pubpaa/USO8_PUBCOMB.pep:*
8: /cgn2 6/ptodata//pubpaa/USO8_PUBCOMB.pep:*
9: /cgn2 6/ptodata//pubpaa/USO8_PUBCOMB.pep:*
11: /cgn2 6/ptodata//pubpaa/USO9_PUBCOMB.pep:*
12: /cgn2 6/ptodata//pubpaa/USO9_PUBCOMB.pep:*
11: /cgn2 6/ptodata//pubpaa/USO9_PUBCOMB.pep:*
12: /cgn2 6/ptodata//pubpaa/USO9_PUBCOMB.pep:*
13: /cgn2 6/ptodata//pubpaa/USO0P_PUBCOMB.pep:*
14: /cgn2 6/ptodata//pubpaa/USO0P_PUBCOMB.pep:*
15: /cgn2 6/ptodata//pubpaa/USO0P_PUBCOMB.pep:*
16: /cgn2 6/ptodata//pubpaa/USO0P_PUBCOMB.pep:*
16: /cgn2 6/ptodata//pubpaa/USO0P_PUBCOMB.pep:*
17: /cgn2 6/ptodata//pubpaa/USO0P_PUBCOMB.pep:*
18: /cgn2 6/ptodata//pubpaa/USO0P_PUBCOMB.pep:*
19: /cgn2 6/ptodata//pubpaa/USO0P_PUBCOMB.pep:*
20: /cgn2 6/ptodata//pubpaa/USO0P_PUBCOMB.pep:*
21: /cgn2 6/ptodata//pubpaa/USO0P_PUBCOMB.pep:*
22: /cgn2 6/ptodata//pubpaa/USO0P_PUBCOMB.pep:*
22: /cgn2 6/ptodata//pubpaa/USO0P_PUBCOMB.pep:*
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-016-481-3
US-10-323-157-3
US-10-323-157-3
US-10-333-192-21
US-10-680-554-5
US-10-173-567-3
US-10-912-907-3
US-10-912-907-3
US-10-811-328-3
US-10-1152-22
US-10-6503-554A-82
                                                                                                                                                                                                                                                                                                                                                                      Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                1867879 seqs, 418409474 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                 November 7, 2005, 20:52:11
                                                                          OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                       BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                             Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                        US-10-811-328-3
498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query
Match Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100.0
100.0
100.0
100.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               00
                                                                                                                                                                                          Title:
Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Scoring table:
                                                                                                                                                                                                                                                                                                                                  Searched:
                                                                                                                                                                                                                                     Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20
4
4
7
7
8
7
10
11
                                                                                                                 Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š.
```

7 Sequence 11	Sequence 18	Sequence 16	Sequence 18	Sequence 16	Sequence 18	Sequence 15	Sequence 15	Sequence 13	Sequence 1	Section 15	Sequence 371	Sequence 371	Sequence 371	Sequence 371	31-371 Sequence 3/1, App	Sequence 371	Sequence 371	Sequence 37	Sequence 371	Sequence 371	Sequence 37	Sequence 373	Sequence 2,	93A-3/1 Sequence 3/1	35-371 Sequence 37	44-371 Sequence 37:	1-371 Sequence 377	-371 Sequence 37:	6-371 Sequence 377	TS.	ides, Related hods
US-10-343-0	Þ	: c	<b>D E</b>	<b>=</b>	Þ	Þ	<b>:</b>	<b>:</b>	<b>&gt;</b> =	⊃ =	us	US-09-989-72	US-09-989-27	US-09-989-72	US-09-989-731-371	US-09-989-73	US-08-991-07	US-09-991-16	US-09-993-60	US-09-990-45	US-09-989-72	US-09-992-55	US-09-886-24	257.2	7-68	90-4	-09-991-1	7-686-60-	S-09-990-4	ALIGNMENT	ULT 1  equence 3, Application US/10016481  ublication No US20020115610A1  ENERAL INFORMATION: ENERAL INFORMATION: TITLE OF INVENTION: Prokineticin Polypeptides, TITLE OF INVENTION: Compositions and Methods FILE REFERENCE: P-UC 5016  CURRENT APPLICATION NUMBER: US/10/016,481  CURRENT APPLICATION NUMBER: 00/245,882  PRIOR FILING DATE: 2000-11-01  PRIOR FILING DATE: 2000-11-03  NUMBER: OF SEQ ID NOS: 19  SOFTWARE: FastSEQ for Windows Version 4.0  EQ ID NO 3  LENGTH: 86  TYPE: PRT  OKGANISM: Home sapiens
80	87 1	87 1	87 1	20,0	, ω	89.1	89 1	89	600	1 F	105 9	105	105	105	105 9	201	105	501	105	105	105	105	105	105 105	100	105	105	105	105		181-3 19. Application US/10016481 10n No US20020115610A1 11RPORMATION: WIT: Ehlert, Frederick NT: Ehlert, Frederick FINVENTION: Compositions FRENCE: P-UC 5016 APPLICATION NUMBER: US/10/ PELING DATE: 2001-11-01 PELING DATE: 2001-11-01 PELING DATE: 2001-11-01 E: FREESE for Windows Vers 5. 3 1. 86 PRT FREESE FOR SHIP FREESE FOR WINDOWS VERS FREESE FOR
100	100	98 100	100	001	98 100	98 100	100	98 100	98 100	2 5	98 100	98 100	98 100	98 100	498 100.0	000	98	2 6	98 100	98 100	100	98 100	100	98 100	001	) C	98 100	98 100	98 100		SEULT 1 5-10-016-481-3 Sequence 3, Application US/10016 Publication No. US20020115610A1 GENERAL INFORMATION: APPLICANT: Chou, Qun-Yong APPLICANT: Ehlert, Frederick TITLE OF INVENTION: Compositio FILE REFERENCE: P-UC 5016 CURRENT APPLICATION NUMBER: US/ CURRENT FILING DATE: 2001-11-0 PRIOR FILING DATE: 2001-11-0 PRIOR APPLICATION NUMBER: 60/24 PRIOR FILING DATE: 2000-11-03 NUMBER OF SEQ ID NOS: 19 SOFTWARE: FASTSEQ for Windows V SEQ ID NO 3 LENGTH: 86 TYPE: PRT ORGANISM: Homo sapiens
12	13	14	15	0 C	18	19	20	21	22	2.4	25	26	27	28	29	30	31	3.5	, e.	35	36	37	38	9 0	) F	4 T	r 4	44	45		RESULT 1 US-10-016-481- Sequence 3, Publication GENERAL INFO APPLICANT: PILE REFERE CURRENT APPLICANT: PRIOR FILIN PRIOR FILIN PRIOR FILIN PRIOR FILIN SOFTWARE: SEQ ID NO 3 LENGTH: 86 IENGTH: 86 IEN

ö

Gaps

0

9

61 CLPNLLCSRFPDGRYRCSMDLKNINF 86

8 8

ò

1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKKKHHTCP

100.0%; Score 498; DB 13; Length 86; 100.0%; Pred. No. 2.6e-45; ive 0; Mismatches 0; Indels (

Query Match
Best Local Similarity 100.v

```
ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 AVITGACERDVQCGAGICCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKKKHHICP 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRRHHTCP 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%; Score 498; DB 15; Length 86; 100.0%; Pred. No. 2.6e-45; ive 0; Mismatches 0; Indels (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
100.0%; Score 498; DB 14; Length 86;
Best Local Similarity 100.0%; Pred. No. 2.6e-45;
Matches 86; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    sequence of Application US/10417426
sequence of Application US/10417426
sequence of Application US/2033535A1
GENERAL INFORMATION:
APPLICANT: Zhou, Qun-Yong
APPLICANT: Bullock, Claycon M.
TITLE OF INVENTION: Treating and Therapeutic Methods For TITLE OF INVENTION: Treating Circadian Rhythm Disorders; FILE REFERENCE: PUC 5773
CURRENT FILING DATE: 2003-04-15
PRIOR PILING DATE: 2002-04-15
PRIOR PILING DATE: 2002-04-15
NUMBER OF SEQ ID NOS: 21
SOFTHARE: PREESEQ for Windows Version 4.0
SEQ ID NO 9
LENGTH: 86
RESULT 2
US-10-323-157-3
; Sequence 3, Application US/10323157
; Publication No. US20030113867A1
; GENERAL INFORMATION:
    APPLICANT: Zhou, Quu-Yong
; APPLICANT: Ehlert, Frederick
TITLE OF INVENTION: Compositions and Methods
; FILE REFERENCE: P-UC 5016
; CURRENT APPLICATION NUMBER: US/10/323,157
; CURRENT APPLICATION NUMBER: US/10/016,481
; PRIOR PILING DATE: 2001-11-01
; PRIOR FILING DATE: 2001-11-01
; PRIOR FILING DATE: 2000-11-03
; NUMBER OF SEO ID NOS: 19
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEO ID NO 3
; LENGTH: 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 CLPNLLCSRFPDGRYRCSMDLKNINF 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 CLPNLLCSRFPDGRYRCSMDLKNINF 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 CLPNLLCSRFPDGRYRCSMDLKNINF 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 CLPNLLCSRFPDGRYRCSMDLKNINF 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity 100.
Matches 86; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-417-426-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-10-323-157-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-417-426-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠ
```

US-10-333-192-21

US-10-333-192-21

Sequence 21, Application US/10333192

Sequence 21, Application Wo. US20040077535A1

GENERAL INFORMATION:

APPLICANT: GHTNAIL, Yasushi

APPLICANT: WANDABE, Takuya

APPLICANT: WANDABE, Takuya

APPLICANT: SHINTANI, Yasushi

APPLICANT: HINNIMA, Syuji

TITLE OF INVENTION: Novel Physiologically Active Peptide and Use Thereof

FILE REFERENCE: 2762USOP

CURRENT FILING DATE: 2003-01-16

PRIOR APPLICATION NUMBER: US/10/333,192

CURRENT FILING DATE: 2000-0-18

PRIOR APPLICATION NUMBER: JP 2000-217442

PRIOR APPLICATION NUMBER: JP 2001-26779

PRIOR PELING DATE: 2001-02-02

PRIOR PELING DATE: 2001-02-02

PRIOR FILING DATE: 2001-07-17

NUMBER OF SEQ ID NOS: 58

SEQ ID NO 21

LEWSTH OF APPLICATION NUMBER: PCT/JP01/06162 9 1 AVITGACERDVOCGAGTCCAISLWIRGIRWCTPLGREGEECHPGSHKVPFFRKRKHHTCP 60 9 1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP 60 1 AVITGACERDVOCGAGTCCAISLMIRGIRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP 1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP Gaps Gaps . 0 ö Query Match 100.0%; Score 498; DB 16; Length 86; Best Local Similarity 100.0%; Pred. No. 2.6e-45; Matches 86; Conservative 0; Mismatches 0; Indels Length 86; Indels APPLICANT: Zhou, Qun-Yong
APPLICANT: Zhou, Qun-Yong
APPLICANT: Cheng, Michelle Y.
TITLE OF INVENTION: Screening and Therapeutic Methods
TITLE OF INVENTION: Relating to Neurogenesis
FILE REFERENCE: 66778-356
CURRENT APPLICATION WUMBER: US/10/680,554
CURRENT FILING DATE: 2003-10-03
PRIOR FILING DATE: 2002-10-04 Query Match 100.0%; Score 498; DB 15; Best Local Similarity 100.0%; Pred. No. 2.6e-45; Matches 86; Conservative 0; Mismatches 0; NUMBER OF SEQ ID NOS: 21 SOFTWARE: FastSEQ for Windows Version 4.0 SEQ ID NO 5 LENGTH: 86 86 61 CLPNLLCSRFPDGRYRCSMDLKNINF 86 61 CLPNLLCSRFPDGRYRCSMDLKNINF 86 61 CLPNLLCSRFPDGRYRCSMDLKNINF US-10-680-554-5
, Sequence S, Application US/10680554
; Publication No. US20040229291A1
; GENERAL INFORMATION: ORGANISM: Homo sapiens ; ORGANISM: Human US-10-333-192-21 US-10-680-554-5 TYPE: PRT TYPE: PRT ò



Tue Nov

```
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
```

OM protein - protein search, using sw model

Run on:

November 7, 2005, 20:48:31; Search time 24.7186 Seconds (without alignments) 334.754 Million cell updates/sec

US-10-811-328-3 498 Title: Perfect score:

1 AVITGACERDVQCGAGTCCA.....CSRFPDGRYRCSMDLKNINF 86 Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

283416 seqs, 96216763 residues Searched:

283416 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

PIR 79:\*
1: pir1:\*
2: pir2:\*
3: pir3:\*
4: pir4:\* Database

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

# SUMMARIES

a	Description	1	LRG5 protein - Chl	notch4 - mouse	adhesive plaque pr	notch homolog - se	н	tumor necrosis fac	thrombospondin pre	MEGF6 protein - ra	hypothetical prote	colipase precursor	collagen, cuticula	granulin precursor	acrogranin - guine	hypothetical prote	notch 3 protein -	cysteine-rich prot	fibulin 1 precurso	fibulin 1 precurso	serine/threonine k	thrombospondin 2 p	laminin gamma-1 ch	colipase precursor	nerve growth facto	mannosyl-oligosacc	65K early nonstruc	mannosyl-oligosacc	LR11 protein - mou	cadherin-related t
SUMMARIES	OI	JC7188	T08179	T09059	A56175	T31070	XLHU	A35356	A39804	T13954	T13576	151909	S34665	GYHU	148141	T16840	S45306	A55035	B36346	C36346	T14450	A42587	MMFFB2	A46717	COHUN	A33901	WMBEDE	A41641	T00348	IJFFTM
	DB	7	~	~	7	~	-	гH	٦	~	~	~	7	ч	7	~	7			N						7	ч	7	~	Н
	* Query Match Length	350	640	1964	473	2531	112	461	1178	1574	1854	112	286	593	591	1101	2318	251	601	683	850	1172	1639	112	427	547	586	1150	2215	5147
	* Query Match	20.2	17.8	16.3	15.6	15.1	14.7	14.6	14.4	14.4	14.4	14.3	14.3	14.3	14.2	14.2	14.2	14.1		13.9	13.8	13.8	13.8	13.7	13.7	13.7	13.7	13.7	13.7	13.7
	Score	100.5	88.5	81	77.5	75	73	72.5	71.5	71.5	71.5	7.1	71	71	70.5	70.5	70.5	70	69	69	68.5	68.5		99	68	9	68	68	68	68
	Result No.	-	8	m	4	S	9	7	α	σ	10	11	12	13	14	15	16	17	8	19	20	21	22	23	24	25	26	27	28	59

protein F21H11.4 [ probable membrane	mouse developmenta	hypothetical prote	notch3 protein - h	epithelin/granulin	epithelin/granulin	osteonidogen - hum	alpha-2-macroglobu	thrombospondin 2 p	probable otsB prot	laminin alpha-1 ch	laminin alpha-1 ch	DELTA-like 1 - mou		hypothetical prote
- *														
C88450 S45463	148653	T27283	S78549	C38128	B38128	G00043	S25111	TSHUP2	D70759	S14458	S18253	148324	T24293	T24294
0 0	7	N	0	~	N	~	٦	Н	0	~	7	7	N	~
108	993	1620	2321	589	589	1376	4545	1172	1327	3075	3712	722	802	949
ωr	'n	ι.	ı.	4.	4.	4.	4	۳.	۳.	m.	۳.	7	7	7
13	13.5	13	13	13	133	13	13	13	13	13	13	13	13	13
67.5	67	67	67	66.5	66.5	66.5	66.5	99	99	99	99	65.5	65.5	65.5
30	3.5	33	34	35	36	3.7	38	68	40	41	4	4.3	4	45

### ALIGNMENTS

RESULT 1

ALL PROLELL - LUMBERS (Man)
C;Species: Homo sapiens (man)
C;Species: Homo sapiens (man)
C;Species: Homo sapiens (man)
C;Date: 04-Mar-2000 #sequence\_revision 04-Mar-2000 #text\_change 11-May-2000
C;Accession: JC7188
R;Tsugi, T; Miyazaki, M.; Sakaguchi, M.; Inoue, Y.; Namba, M.
Biochem: Biophys. Res. Commun. 268, 20-24, 2000
A;Title: A REIC gene shows down-regulation in human immortalized cells and human tumor-A;Reference number: JC7188; MUID:20119095; PMID:10652205
A;Accession: JC7188
A;Molecule type: mRNA
A;Residues: 1-350 <TSU)
A;Residues: 1-350 <TSU)
A;Cross-references: DDBJ-AB034203
A;Experimental source: heart
C;Comment: This protein is a secreted glycoprotein for head induction in amphibian embr C;Genetics:
A;Genetics:
A;Genetics:
A;Genetics:
A;Genetics:
A;Genetics:
A;Genetics:
C;Superfamily: human REIC protein
C;Keywords: cardiac muscle; coiled coil; glycoprotein; heart; tumor REIC protein - human

4 Gaps 11; Query Match
Best Local Similarity 37.7%; Pred. No. 0.0038;
Matches 26; Conservative 3; Mismatches 29; Indels 11;

208 CDNQRDCQPGLCCAFQ---RGLLFPVCTPLPVEGELCHDPASRLLDLITWELEPDGALDR 264 7 CERDVQCGAGTCCAISLWLRGL--RMCTPLGREGEECH-PGSHKVPFFRKRKH-----HT 58 셤 ð

59 CPCLPNLLC 67 ò

265 CPCASGLLC 273 g

RESULT 2

TOBLOS
INGS protein - Chlamydomonas reinhardtii
INGS protein - Chlamydomonas reinhardtii
C;Species: Chare: 10-001-1999 #sequence\_revision 11-Jun-1999 #text\_change 09-Jul-2004
C;Accession: T08179
R;Gloeckner, G.; Beck, C.F.
Submitted to the EMBL Data Library, October 1996
A;Beference number: Z16399
A;Reference number: Z16399
A;Reference number: Z16399
A;Reference number: Z16399
A;Reference number: Z16399
A;Residues: preliminary; translated from GB/EMBL/DDBJ
A;Residues: 1-640 <GLO>
A;Residues: 1-640 <GLO>
A;Cross-references: UNIPROT:Q96397; EMBL:U73817; NID:g1644369; PID:g1644370
C;Genetics:
A;Gene: IRG5

~

Page

62

```
NyAlternate names: procollipase
C;Species: Homo saptens (man)
C;Date: 04-Dec-1986 #sequence_revision 19-May-1995 #text_change 09-Jul-2004
C;Species: Homo saptens (man)
C;Date: 04-Dec-1986 #sequence_revision 19-May-1995 #text_change 09-Jul-2004
C;Accession: A42568; A3349; A33163
R;Sims, H.F.; Lowe, M.E.
B;Cohemistry 31, 7120-7125, 1992
A;Title: The human colipase gene: isolation, thromosomal location, and tissue-specific e
A;Reference number: A42568
A;Accession: A42568
A;Accession: A42568
A;Molecule type: DNA
A;Residues: 1-112 <SIM>A;Accession: A3256
A;Molecule type: DNA
A;Residues: 1-112 <SIM>A;Cross-reference extracted from NCBI backbone (NCBIN:110576, NCBIN:110578, NCBIP:110580)|
R;Lowe, M.E.; Rosenblum, J.L.; McEwen, P.; Strauss, A.W.
B;Cross-reference extracted from NCBI backbone (NCBIN:110578, NCBIP:110580)|
R;Lowe, M.E.; Rosenblum, J.L.; McEwen, P.; Strauss, A.W.
B;Cohemistry 29, 823-828, 1990
A;Title: Cloning and characterization of the human colipase cDNA.
A;Accession: A33949; MUID:90248429; PMID:2337598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Molecule type: protein
A;Residues: 23-108 <STE>
C;Comment: Colipase, a cofactor of triacylglycerol lipase (EC 3.1.1.3), forms a 1:1 sto1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                notch homolog - sea urchin (Lytechinus variegatus)
C;Species: Lytechinus variegatus (variegated urchin)
C;Date: 22-Oct-1999 #sequence_revision 22-Oct-1999 #text_change 31-Jan-2000
C;Accession: T31070
R;Sherwood, D.R.; McClay, D.R.
Development 124, 3363-3374, 1997
A;Pitle: Identification and localization of a sea urchin Notch homologue: insights into A;Reference number: 220966; MUID:97454256; PMID:9310331
A;Accession: T31070
A;Status: preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A)Cross-references: GB:J02883; NID:g180885; PIDN:AAA52054.1; PID:g180886
A)Cross-references: GB:J02883; NID:g180885; PIDN:AAA52054.1; PID:g180886
A)Note: evidence of partial N-g1ycosylation, possibly at Asn-43
B; Engetrom, A.; Hellman, U.; Vihert, A.M.; Sternby, N.H.; Borgstrom, Biochim. Biophys. Acta 784, 75-80, 1984
A)Title: The primary sequence of human pancreatic colipase.
A)Reference number: A90652; MUID:84104937; PMID:6691986
A)Accession: A03163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Molecule type: mRNA
A; Residues: 1-231 cHBL.
A; Cross-references: EMBL.AF000634; NID:92570350; FID:92570351; FIDN:AAB82088.1
C; Superfamily: notch protein; ankyrin repeat homology; EGF homology
                                                                                                 120 VDNVCKLEEPCQNGGTCRLTTSLWDYEC-FCTP-ANTGENCTDDNHCV-----SNP 168
                                            CERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECH-PGSHKVPFPRKRKHHTC---PCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              3 ITGACERDVQCGAGTCCAI -- SLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 2; Length 2531;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          32; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 75; DB 2
Pred. No. 9.7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             - human
                                                                                                                                                                                                                                                                                                     166 NKGRC--PPDGKTGYKC 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       169 CLNGAVCTSSSDG-YSC 184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 CLPNLLCSRFPDGRYRC 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity 29.9%;
Matches 22 Community 29.9%;
                                                                                                                                                                                                                 63 PNLLCSRFPDGR--YRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             colipase precursor [validated]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          23; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Residues: 1-112 <LOW>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A, Molecule type: mRNA
                                                ò
                                                                                                                   셤
                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C; Jaces 11-001-1999 #Requence_revision 11-0un-1999 #text_cnange 09-0u1-2004
C; Jacession: T09059
R;Rowen, L.; Mahairas, G.; Qin, S.; Ahearn, M.E.; Dankers, C.; Lasky, S.; Loretz, C.; Sc submitted to the EMBL. Data Library, October 1997
A; Description: Sequence of the mouse major histocompatibility locus class III region.
A; Reference number: 216543
A; Reference number: 216543
A; Ratus: preliminary; translated from GB/EMBL/DDBJ
A; Rotus preliminary; translated from GB/EMBL/DDBJ
A; Residues: 1-1964 «ROW»
A; Residues: 1-1964 «ROW»
A; Cross-references: UNIPROT: P31695; EMBL: AF030001; NID: g2564945; PID: g2564947
C; Genetics:
A; Genetics:
A; Genetics:
A; Genetics: 22/1; 49/2; 148/1; 264/1; 305/1; 384/1; 436/1; 501/1; 539/1; 577/1; 618/1; 67
C; Superfamily: notch protein; ankyrin repeat homology; EGF homology
C; Keywords: receptor; signal transduction
F; 514-545/Domain: EGF homology «EGF»
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Cincession: AS6175
Rinoue, K.; Takeuchi, Y.; Miki, D.; Odo, S.
J. Biol. Chem. 270, 6698-6701, 1995
A;Title: Mussel adhesive plaque protein gene is a novel member of epidermal growth factor A;Reference number: A56175; MUD: 95204464; PMID: 7896812
A;Reference number: A56175; MUD: 95204464; PMID: 7896812
A;Reseidue: 1-473
A;Residues: 1-4
                                                                                             4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  7;
                                                                                                                                                                                                                                                         488 CTAGRCC----WM----TCLPMWGSGGTWPWRPLMTP-----SRTCACLPTPCCSRWLR 533
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ----KLRKG 233
                                                                                                                                                                             13 CGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCPCLPNLLCSRF-- 70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            7 CERDVQ------CGAGTCCAISLWLRGLRMC-TPLGREGEECHPGSHKVPFFRKRKHH 57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          notch4 - mouse
C;Species: Mus musculus (house mouse)
C;Date: 11-Jun-1999 #sequence_revision 11-Jun-1999 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  adhesive plaque protein Mgfp2 precursor - Mediterranean mussel
C;Species: Mytilus galloprovincialis (Mediterranean mussel)
C;Date: 27-Apr-1995 #sequence_revision 03-Oct-1995 #text_change 09-Jul-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                    23; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  19;
        Length 640;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 473;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
16.3%; Score 81; DB 2; Length 1964;
Best Local Similarity 30.4%; Pred. No. 1.8;
Matches 24; Conservative 7; Mismatches 22; Indels 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 188 CERDINECFLEPGPCPQGT8CHNTL---GSYQCLCPVGQEGPQC----
                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
Score 88.5; DB 2; ... Pred. No. 0.11; 5; Mismatches 24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
15.6%; Score 77.5; Di
Best Local Similarity 31.2%; Pred. No. 1.2;
Matches 24; Conservative 11; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          234 ACPPGSCLNGGTCQLVPEG 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     58 TCP---CLPNLLCSRFPDG 73
                                                                                                                                                                                                                                                                                                                                                                                                                             534 RWRCGWAPGGRWRCSL 549
Query Match
Best Local Similarity 31.6%;
Matches 24; Conservative
                                                                                                                                                                                                                                                                                                                                                  -----PDGRYRCSM 79
                                                                                                                                                                                                                                                                                                                                             71
                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ద
                                                                                                                                                                             ઠ
                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
```

Ŋ

Gaps

14;

9

m.

1

ì

```
November 7, 2005, 20:47:46; Search time 117.413 Seconds (without alignments) 375.076 Million cell updates/sec
                                                                                                                                                                                                                                           1 AVITGACERDVQCGAGTCCA.....CSRFPDGRYRCSMDLKNINF 86
                                                                                                                                                                                                                                                                                                                                                                                          1612378
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                        Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                1612378 seqs, 512079187 residues
                                                                               OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                   BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                   US-10-811-328-3
498
                                                                                                                                                                                                     Title:
Perfect score:
                                                                                                                                                                                                                                                                                       Scoring table:
                                                                                                                                                                                                                                               Sequence:
                                                                                                                                                                                                                                                                                                                                                  Searched:
                                                                                                                       Run on:
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution. 1: uniprot\_sprot:\* 2: uniprot\_trembl:\* UniProt\_03:\* Database :

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Q9ubp4 homo sapien	Q9es33 rattus norv	Ogdnug mnscnln	094907 homo sapien	Q6pvu5 oryctolagus	O57464 xenopus lae	Q6pq81 homo sapien	Q9pwh3 brachydanio	Q96397 chlamydomon	Q9w6d9 brachydanio	Q8bu04 mus musculu	Q642a8 rattus norv	Q8nb03 homo sapien	P31695 mus musculu
DKK3 HUMAN	09ES33	DKK3 MOUSE	DKK1 HUMAN	QGPVŪS	057464	Q6PQ81	Q9 PWH3	096397	609M60	CND0 MOUSE	Q642 <u>A</u> 8	Q8NB03	NTC4_MOUSE
Н	~	Н	Н	ά.	7	7	N	~	7	7	N	~	Н
350	277	349	266	268	259	350	240	640	241	425	425	446	1964
									17.3				
100.5	99.5	98.5	97	96.5	95.5	94.5	94	88.5	98	82.5	82.5	81.5	81
32	33	34	35	36	37	38	39	40	41	42	43	44	45

# ALIGNMENTS

RESULT 1 PRK1 HUWAN ID PRKI HUWAN STANDARD; PRT; 105 AA.		(Rel. 46, Last annotation n 1 precursor (Endocrine-c	growth factor) (EG-VEGF) (Mambakine) (UNQ600/PRO1186). Name=PROK1;	s (Human). Metazoa: Chordata;	Primates;	NCBI_TaxID=9606; [1]	SEQUENCE FROM N.A.	Li M., Bullock C.M., Knauer D.J., Ehlert F.J., Zhou Q.Y.;		potently contract gastrointestinal smootn muscle."; Mol bharmacol so.692-698(2001)	MOL: FINALINGCOL: 39:332-030 (2001).	SEQUENCE FROM N.A.	MEDLINE=21419730; PubMed=11528470; DOI=10.1038/35091000;	LeCouter J., Kowalski J., Foster J., Hass P., Znang Z., Dillard-Telm I., Frantz G., Rangell L., DeGuzman L., Keller GA.,	Peale F., Gurney A., Hillan K.J., Ferrara N.;	"Identification of an angiogenic mitogen selective for endocrine gland	endothellum.";	Nature 412:0//-004(2001/.	SEQUENCE FROM N.A.		"Mambakine, a snake venom related endocrine hormone that controls	macrophages."; submitted (APR-2001) to the EMBL/GenBank/DDBJ databases.	[4]	SEQUENCE FROM N.A.	MEDLINE=2288/296; PUDMEd=129/5309; DOL=10.1101/g1.1293003; Clark H P. Girnev A I., Abava E. Baker K., Baldwin D., Brush J.,	Chen J., Chow B., Chui C., Crowley C., Currell B., Deuel B., Dowd P.,	Eaton D., Foster J., Grimaldi C., Gu Q., Hass P.E., Heldens S.,	Huang A., Kim H.S., Klimowski L., Jin Y., Johnson S., Lee J.,	LEWIS D., DIAG D., MILK M., KUDDIE D., CONTROLL C., CONTROLL C., CARACTER S., CARACTER S., SINGH J., SMITH V. STINSON J., VAGTE A.,	Vandlen R., Watanabe C., Wieand D., Woods K., Xie MH., Yangura D.,	Yi S., Yu G., Yuan J., Zhang M., Zhang Z., Goddard A., Wood W.I.,	GOGOWSKI P., GTAY A.; Aignoment initiative (RDDI) a large-scale	uman secreted and transme	bioinformatics assessment.";		SEQUENCE OF 20-34.
RESU PRK1	422	DE	O E	8 8	88	N S	RP	2 2	RT	RT	Z Z	RP	ž	RA PA	æ	RT	RI	Z Z	RP	RA	RI	RT.	S	RP	Z Z	R.	RA	Z :	¥ 6	Z &	RA:	RA E	RT	RT	2 2	RP

~

```
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          similarity).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE=Testis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Name=Prok1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          and mouse
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRK1 RAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRK1_RAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT
     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HD DAYCO DD DAYCO DAYCO DD DAY
                                                                                                                                                                                                                                                                                                                                                                                                              This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                       -!- SUBCELLULAR LOCATION: Secreted.
-!- TISSUE SPECIFICITY: Expressed in the steroidogenic glands, ovary, testis, adrenal and placenta.
-!- SIMILARITY: Belongs to the prokinecitin family.
                                                                                                       Protein Sci. 13:2819-2824(2004).

-!- FUNCTION: Potently contract gastrointestinal (GI) smooth muscle. Induces proliferation, migration and fenestration (the formation of membrane discontinuities) in capillary endothelial cells derived from endocrine glands. Has little or no effect on a variety of other endothelial and non-endothelial cell types.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .
0
PubMed=15340161; DOI=10.1110/ps.04682504;
Zhang Z., Henzel W.J.;
"Signal peptide prediction based on analysis of experimentally
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899; Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 105;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MIM, 606233; -. .
InterPro; IPR009523; Prokineticin.
Pfam; PF06607; Prokineticin; 1.
Direct protein sequencing; Growth factor; Mitogen; Signal. SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C7E3FDE30EFB416A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ·.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  4.8e-45;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 498; DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     By similarity.
By similarity.
By similarity.
By similarity.
By similarity.
By similarity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Prokineticin 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               105 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pred. No. 4.8
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   80 CLPNLLCSRFPDGRYRCSMDLKNINF 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 CLPNLLCSRFPDGRYRCSMDLKNINF 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; AF333024; AAK49918.1; -.
EMBL; AY029225; AAK33111.1; -.
EMBL; AX358683; AAQ89046.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  11715 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-JUN-2002 (TrEMBLrel. 21,
01-MAR-2004 (TrEMBLrel. 26,
Prokineticin 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Guery Match
Best Local Similarity 100.0.
Best Accas 86; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OBTC69;
01-JUN-2002 (TrEMBLrel, 21,
                                                                                     verified cleavage sites.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MSSP; P25687; IIMT.
Genew, HCNC:18454; PROKI.
H-InvDB; HIX0000868; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          105
105
38
50
78
86
96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  105 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE=Testis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Name=PROK1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q8TC69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 2
```

**08TC69** 

ઠે 셤 ò 셤

```
Rlausner R.D., Collins F.S., Wagner L., Ehenmen C.M., Schuler G.D.,
Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
By Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Haish F.,
Diatchenko L., Marusina K., Fararer A.A., Rubin G.M., Hong L.,
Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
Brownstein M.J., Usdin T.B., Toshiyuki S., Carninci P., Prange C.,
Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
Nilalon D.K., Muzny D.M., Sodergren B.J., Lu X., Gibbs R.A.,
A Richards E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,
Andriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,
Andriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,
Andriguez M.C., Shalska U., Smailus D.E., Schnerch A., Schein J.E.,
Andrea M. A.,
Andrea M.A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.

STRAIN=Sprague-Dawley;

Masuda Y., Takatsu Y., Terao Y., Kumano S., Ishibashi Y., Suenaga M.,

Amedina Y., Takatsu Y., Terao Y., Kumano S., Ishibashi Y., Suenaga M.,

Abe M., Fukusumi S., Watanabe T., Shintani Y., Yamada T., Hinuma S.,

Inatomi N., Ohtaki T., Onda H., Fujino M.;

Ingands for two orphan G-protein-coupled receptors.";

Biochem. Biophys. Res. Commun. 293:396-402(2002).

Induces proliferation, migration and fenestration (the formation of membrane discontinuities) in capillary endothelial cells derived from endocrine glands. Has little or no effect on a variety of other endothelial and non-endothelial cell types (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          20 AVITGACERDVOCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKIPFFRKRKHTCP 79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    10-OCT-2003 (Rel. 42, Created)
10-OCT-2003 (Rel. 42, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
Prokineticin 1 precursor (Endocrine-gland-derived vascular endothelial growth factor) (EG-VEGF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 497; DB 2; Length 105;
Pred. No. 6.1e-45;
1; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Strausberg R.;
Submitted (MAR-2002) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             InterPro; IPR009523; Prokineticin.
Pfam; PF06607; Prokineticin; 1.
SEQUENCE 105 AA; 11729 MW; E570FDE30EFB52D2 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   105 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLPNLLCSRFPDGRYRCSMDLKNINF 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 CLPNLLCSRFPDGRYRCSMDLKNINF 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; BC025399; AAH25399.1;
HSSP; P25687; 11MT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        cDNA sequences.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity 98.8
Matches 85; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Rattus norvegicus (Rat).
```

3

```
1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRK-HHTC 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        13
18
41
62
73
18
22
81 AA;
        Query Match
Best Local Similarity
Matches 71; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRUCTURE BY NMR.
                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=8620;
                                                                                                                                                                                                                           DENPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CONFLICT
CONFLICT
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VARIANT
                                                                                                                                                                                                                                    P25687
                                                                                                                                                                                              RESULT 5
VPRA_DENPO
                                                                                                                                                                                                                           VPRA
                                                                                                                                                                                                                          ò
                                                                  ò
                                                                                          셤
                                                                                                                         ò
                                                                                                                                                   셤
                                   This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@lsb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                 20 AVITGACERDVQCGAGTCCAISLWLRGLRLCTPLGREGEECHPGSHKIPFFRKRQHHTCP 79
                                                                                                                                                                                                                                                                                                                                                                                                                                   1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRAIN-C57BL/6;
MEDLINE=22022134; PubNed=12024206; DOI=10.1038/417405a;
Cheng M.Y., Bullock C.M., Li C., Lee A.G., Bermak J.C., Belluzzi J.,
Weaver D.R., Leelie F.M., Zhou Q.Y.;
"Prokineticin 2 transmits the behavioural circadian rhythm of the
suprachiasmatic nucleus.";
Nature 417.405-410(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GO; GO:0005576; C:extracellular; IDA.
GO; GO:0000187; P:activation of MAPK; IDA.
GO; GO:0000182]; P:circadian rhythm; TAS.
GO; GO:0008284; P:positive regulation of cell proliferation; IDA.
GO; GO:0045765; P:regulation of angiogenesis; IDA.
InterPro; IPR009523; Prokineticin.
                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                            Length 105;
                                                                                                                                                                                                                                                                                                                                              8DF0C42122B1C5B6 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   81 AA; 9192 MW; 7BBE3EC6B16A8011 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Created)
Last sequence update)
Last annotation update)
              -!- SIMILARITY: Belongs to the prokinecitin family.
SUBCELLULAR LOCATION: Secreted (By Similarity).
                                                                                                                                                                                                                                                                                                                                                                            95.0%; Score 473; DB 1; 91.9%; Pred. No. 2.1e-42;
                                                                                                                                                                                                                                                        Prokineticin 1.
By similarity.
By similarity.
By similarity.
By similarity.
By similarity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                81 AA.
                                                                                                                                                                                                                                                                                                                                                                                                        5; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Potential.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 CLPNLLCSRFPDGRYRCSMDLKNINF 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT;
                                                                                                                                                                                                 InterPro, IPR009523, Prokineticin.
Pfam, PF06607, Prokineticin, 1.
Growth factor, Mitogen, Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pfam; PF06607; Prokineticin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; AF487281; AAM49573.1; -.
HSSP; P25687; 11MT.
                                                                                                                                                         EMBL, AY089983, AAM09104.1; -. HSSP; P25687; 11MT. RGD; 620898; Prokl.
                                                                                                                                                                                                                                                                                                                                               11642 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-OCT-2002 (TrEMBLrel. 22, 01-OCT-2002 (TrEMBLrel. 22, 01-MAR-2004 (TrEMBLrel. 26, Prokineticin I (Fraqment). Name=Prokl; Synonyms=Pkl;
                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity 91.9
Matches 79; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MGD; MGI:2180370; Prokl.
                                                                                                                                                                                                                                             19
105
38
50
50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                  60
80
105 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NON TER
SEQUENCE
                                                                                                                                                                                                                                                                        DISULFID
DISULFID
DISULFID
                                                                                                                                                                                                                                                                                                                  DISULFID
DISULFID
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               08K457;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               08K457
                                                                                                                                                                                                                                               SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 4
```

쉱 ò

ò

```
ö
                                                                                            65
                                                                                                                              9
                                                                                                                 1 ACERDIQCGAGTCCAISLWLRGLRLCTPLGREGEECHPGSHKIPFLRKRQHHTCPCSPSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CHARACTERIZATION.

CHARACTERIZATION.

MEDLINE-20036442; PubMed=10567694; DOI=10.1016/S0014-5793(99)01459-3; SCHweitz-H., Pascaud P., Diochot S., Moinier D., Lazdunski M., "MITI, a black mamba toxin with a new and highly potent activity on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   6 ACERDVOCGAGICCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHICPCLPNL
                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Joubert F.J., Strydom D.J.; "Snake venom. The amino acid sequence of protein A from Dendroaspis polylepis polylepis (black mamba) venom."; Hoppe-Seyler's Z. Physiol. Chem. 361:1787-1794 (1980).
                                                                                                                                                                                                                                                                                                                                                              01-MAY-1992 (Rel. 22, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
25-CCT-2004 (Rel. 45, Last annotation update)
1ntestinal toxin 1 (MIT 1) (MIT1) (Venom protein A).
Dendroaspis polylepis polylepis (Black mamba).
Eukaryota; Metazca; Chordata; Craniata; Vertebrata; Euteleostomi; Lepidosauria; Squamata; Scleroglossa; Serpentes; Colubroidea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ä
                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TISSUE=Venom;
MEDLINE=98437381; PubMed=9761684; DOI=10.1006/jmbi.1998.2057;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         62.3%; Score 310.5; DB 1; Length 81; 62.8%; Pred. No. 2.4e-25; ive 14; Mismatches 14; Indels
          Length 81;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    P -> Q (in protein A').
C -> S (in Ref. 1).
S -> C (in Ref. 1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6C01368841572044 CRC64;
Score 432; DB 2;
Pred. No. 3.5e-38;
  86.7%; Score
87.7%; Pred. No. 3.5e-
                                                                                                                                                                                                                                                                                                                         81 AA.
                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TISSUE=Venom;
MEDLINE=81115818; PubMed=7461607;
                                                                                                                                                                              86
                                                                                                                                                                                                                       81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Elapidae, Elapinae, Dendroaspis.
                                                                                                                                                                                                       61 LCSRFPDGRYRCFRDLKNANF
                                                                                                                                                                              66 LCSRFPDGRYRCSMDLKNINF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 intestinal contraction.";
FEBS Lett. 461:183-188(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8645 MW;
                                                       71; Conservative
                                                                                                                                                                                                                                                                                                                            STANDARD;
```

1,

4

```
DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bovinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q863H5
Q863H5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 8
      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
1 AVITGACERDLQCGKGTCCAVSLWIKSVRVCTPVGTSGEDCHPASHKIPFSGQRKWHHTC 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         28 AVITGACDRDPQCGGGMCCAVSLWVKSIRICTPMGKVGDSCHPWTRKVPFLGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN-Sprague-Dawley;
MEDLINE=22050031; PubMed=12054613; DOI=10.1016/S0006-291X(02)00239-5;
Masuda Y., Takatsu Y., Terao Y., Kumano S., Ishibashi Y., Suenaga M.,
Abe M., Fukusumi S., Watanabe T., Shintani Y., Yamada T., Hinuma S.,
Inatomi N., Ohtaki T., Onda H., Fujino M.;
"Isolation and identification of EG-VEGF/prokineticins as cognate
ligands for two orphan G-protein-coupled receptors.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi;
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Rattus.
                                                                                                                                                                                                                                                                                                                                            Bos taurus (Bovine).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Bovidae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=226612805; PubMed=12728244; DOI=10.1038/sj.embor.embor830; Kaser A., Winklmayr M., Lepperdinger G., Kreil G.; "The AVIT protein family."; EMBO Rep. 4:469-473(2003).
EMBL; AY192558; AAP31907.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 108;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             y Match 61.0%; Score 304; DB 2; Length 10
Local Similarity 62.3%; Pred. No. 1.6e-24;
nes 48; Conservative 11; Mismatches 18; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EFFECT ON CIRCADIAN LOCOMOTOR ACTIVITY.
MEDLINE=22022134; PubMed=12024206; DOI=10.1038/417405a;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pfam; PF06607; Prokineticin; 1.
SEQUENCE 108 AA; 11672 MW; C00410399A9B215E CRC64;
                                                                                                                                                                                                                                                    01-JUN-2003 (TrEMBLrel. 24, Created)
01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
BV8/prokineticin 2-like protein splice variant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ochem. Biophys. Res. Commun. 293:396-402(2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         28-FEB-2003 (Rel. 41, Created)
28-FEB-2003 (Rel. 41, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
                                                                                                                                                                                                                 108 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           InterPro; IPR009523; Prokineticin.
                                                                                                       78
                                                               77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            88 CLPGLACSRISFNRYIC 104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Prokineticin 2 precursor (PK2)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      77
                                                                                          PCLPNLLCSRFPDGRYRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 CLPNLLCSRFPDGRYRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Name=Prok2; Synonyms=Bv8;
Rattus norvegicus (Rat).
                                                                                                                                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=9913;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TISSUE=Testis;
                                                                                                                                                                                                                                                                                                                                                                                                          Bovinae; Bos
                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                 Q863H4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Loca
Matches
                                                                                                                                                                   RESULT 6
Q863H4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRK2_RAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT
                                                                                                     g
                                                               ઠે
                                                                                                                                                                                                                   SOCCOST SECTION OF STREET STRE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation. the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (see http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                        -!- FUNCTION: May function as an output molecule from the suprachiasmatic nucleus (SCN) that transmits behavioral circadian rhythm. May also function locally within the SCN to synchronize output. Potently contracts gastrointestinal (GI) smooth muscle (B)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -!- SUBCELLULAR LOCATION: Secreted (By similarity).
-!- TISSUE SPECIFICITY: Expressed at high levels in testis and at lower levels in brain, lung, ovary, spleen, thymus and uterus.
-!- INDUCTION: Activated by CLOCK and BML1 heterodimers and light; inhibited by period genes (ERI, PER2 and PER3) and cryptochrome genes (CRY1 and CRY2) (Probable).
-!- SIMILARITY: Belongs to the prokinecitin family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
     C., Lee A.G., Bermak J.C., Belluzzi J.,
u Q.-Y.;
Cheng M.Y., Bullock C.M., Li C., Lee A.G., Bermak J.C., Belluzzi J Weaver D.R., Leslie F.M., Zhou O.^{-Y}, j Prokineticin 2 transmits the behavioural circadian rhythm of the suprachiaematic nucleus"; Nature 417:405-410 (2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Cetartiodactyla, Ruminantia, Pecora, Bovidae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IISSUE=Testis;
MEDLINE=22612805; PubMed=12728244; DOI=10.1038/sj.embor.embor830;
Kaser A., Winklmayr M., Lepperdinger G., Kreil G.;
"The AVIT protein family.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 107;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      18; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BDFF316CDCBSFED0 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-JUN-2003 (TrEMBLrel. 24, Created)
01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
BV8/prokineticin 2-like protein.
Bos taurus (Bovine).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            57.4%; Score 286; DB 1;
57.1%; Pred. No. 1.2e-22;
iive 15; Mismatches 18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            By similarity.
By similarity.
By similarity.
By similarity.
By similarity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Potential.
Prokineticin 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        128 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Biological rhythms; Neuropeptide; Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro, IPR009523; Prokineticin.
Pfam; PF06607; Prokineticin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; AY089984; AAM09105.1; -. HSSP; P25687; 11MT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         87 CLPGLACLRISFNRFIC 103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           11594 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 CLPNLLCSRFPDGRYRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        26
107
45
57
57
85
93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     107 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bv8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=9913;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     27
33
39
44
67
                                                                                                                                                                                                                                                            similarity)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RGD; 620280;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      44;
```

ö 09 98 129 AA.

```
6-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Name=1
                                                                                                                                                                                                                                                                                   1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20 AVITGACDRDVQCGSGTCCAASLWSRNIRFCVPLGNNGEECHPASHKVPYNGKRLSSLCP 79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP 60
                                                                                                                                                                                                                                                                                                           46
                                                                                                                                                                                                                                                                                                                          28 AVITGACDRDPQCGGGMCCAVSLMVKSIRICTPMGKVGDSCHPMTRKNHFGNGRQERRKR 87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TISSUE=Skin secretions;
MEDLINE=22515712; PubMed=12628381; DOI=10.1016/S1096-4959(02)00294-4;
Lia R., Liu H., Lee W.H., Zhang Y.;
"Two novel Bv8-like peptides from skin secretions of the toad Bombina
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-0CT-2002 (TrEMBLrel. 22, Created)
01-0CT-2002 (TrEMBLrel. 22, Last sequence update)
01-MR-2004 (TrEMBLrel. 26, Last annotation update)
By8 protein homolog 2:
Bombina maxima (Giant fire-bellied toad) (Chinese red belly toad).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Archeobatrachia; Bombinatoridae; Bombina.
                                                                                                                                                                                                                                                                                   Gaps
                            Comp. Biochem. Physiol. B, Biochem. Mol. Biol. 134:509-514(2003).
                                                                                                                          elevation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ij
                                                                                                                                                                                                                                                                                   20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 2; Length 96;
                                                                                                                                                                                                                                                        Length 128;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20; Indels
                                                                                                                                                                                                                                                      57.0%; Score 284; DB 2; Length 12
49.5%; Pred. No. 2.4e-22;
iive 11; Mismatches 18; Indels
                                                                                                                                                                                                                                                                                                           1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSH--
                                                                                                                                                                                                                  PF06607; Prokineticin; 1.
ICE 128 AA; 14290 MW; C22CDBDBE40483EC CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Interpro; IPR009523; Prokineticin.
Pfam; PF06607; Prokineticin; 1.
SEQUENCE 96 AA; 10198 MW; EC4BAA5EFE49B2F0 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                       88 KRRKKKVPFLGRRMHHTCPCLPGLACSRTSFNRYTC 124
                                                                                                                                                                                                                                                                                                                                                              77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pred. No. 6.9e-22;
                                                                                                                                                                                                                                                                                                                                                              47 -----KVPFFRKRKHHTCPCLPNLLCSRFPDGRYRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                         96 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 278.5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
                                                                                                                                                                                                       InterPro; IPR009523; Prokineticin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; AF411091; AAN03822.1; -. HSSP; P25687; 11MT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLPNLLCSRFPDGRYRCS 78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CKSGLTCSKSGE-KFQCS 96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       55.9%;
     AY192557; AAP31906.1;
P25687; 11MT.
                                                                                                                                                                                                                                                                       Local Similarity 49.5%
les 48; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 48; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NCBI_TaxID=161274;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       80
                                                                                                                                                                                                                                 SEQUENCE
                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     maxima.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         OBJFOO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 9
Q8JFQ0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
셤
                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                               ठ
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (see http://www.isb-sib.ch/announce/or send an email to license@ib-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Isold=Q9HC23-2; Sequence=VSP 005219;
TISSUE SPECIFICITY: Expressed in the testis and, at low levels, in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    verified oleawage sites.";

Protein Sci. 13:2819-2824(2004).

-!- FUNCTION: May function as an output molecule from the suprachiasmatic nucleus (SCN) that transmits behavioral circadian ruptum. May also function locally within the SCN to synchronize output. Potently contracts gastrointestinal (GI) smooth muscle.
-!- SUBCELLULAR LOCATION: Secreted.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GO:0005576; C:extracellular; TAS.
GO:0001664; F:G-protein-coupled receptor binding; TAS.
GO:000187; P:activation of MAPK; TAS.
GO:0001525; P:andi-ogenesis; IDA.
GO:0006916; P:anti-apoptosis; IDA.
GO:0006935; P:cell proliferation; IDA.
GO:0006935; P:cell proliferation; IDA.
GO:0007204; P:cytosolic calcium ion concentration elevation; TAS.
                                                                                                                                                                                                                                           TISSUE=Testis;
MEDLINE=210047950; PubMed=10580115; DOI=10.1016/S0014-5793(99)01473-8;
WEDLINE=210047950; PubJisi R., Lepperdinger G., Boltani C., Krell G.;
Wechselberger C., Fuglisi R., Lepperdinger G., Boltani C., Krell G.;
"The mammalian homologue of Bv8 from frog skin is mainly expressed in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -!- INDUCTION: Activated by CLOCK and BMAL1 heterodimers and light; inhibited by period genes (PER1, PER2 and PER3) and cryptochrome genes (CRY1 and CRY2) (Probable).
                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
                                                                                                                                                                                                                                                                                                                                                        [2]
SEQUENCE FROM N.A. (ISOFORM 2).
MEDLINE=21160229; PubMed=11259612;
Li M., Bullock C.M., Knauer D.J., Ehlert F.J., Zhou Q.-Y.;
Lidentification of two prokineticin cDNAs: recombinant proteins potently contract gastrointestinal smooth muscle.";
Mol. Pharmacol. 59:692-698(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Signal peptide prediction based on analysis of experimentally
                                                16-OCT-2001 (Rel. 40, Last sequence update)
25-JAN-2005 (Rel. 46, Last annotation update)
Prokineticin 2 precursor (PK2) (Protein Bv8 homolog).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Event=Alternative splicing; Named isoforms=2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          [3]
SEQUENCE OF 28-42.
PubMed=15340161; DOI=10.1110/ps.04682504;
Zhang Z., Henzel W.J.;
Zhang T., ----ide prediction based on analy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IsoId=Q9HC23-1; Sequence=Displayed;
                                                                                                                                                                                                                       SEQUENCE OF 5-129 FROM N.A. (ISOFORM 1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; AF182069; AAG16893.2; -. EMBL; AF333025; AAK49919.1; -.
                                   Created)
                                                                                                                                                                                                                                                                                                                                     FEBS Lett. 462:177-181(1999).
                                                                                                           Name=PROK2; Synonyms=BV8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      the small intestine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HGNC:18455; PROK2
STANDARD;
                                                                                                                             Homo sapiens (Human)
                                                                                                                                                                                  NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                       spermatocytes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .
8888888888
```

\(\frac{1}{2}\)

RESULT 10

```
DISULFID
DISULFID
SEQUENCE
                 DISULFID
DISULFID
DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                          PRK2_MOUSE
                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                         RESULT 12
      FFFFF S
                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                       유
                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                         47
GO; GO:0007186; P:G-protein coupled receptor protein signalin. . .; NAS. GO; GO:0006594; P:inflammatory response; NAS. GO; GO:0019233; P:perception of pain; TAS. GO; GO:0019239; P:perception of pain; TAS. GO; GO:0045897; P:positive requiation of smooth muscle contra. . .; IDA. GO; GO:0007283; P:spermatogenesis; IMP. InterPro; IPRO0552; Prokineticin. Pfam; PF06607; Prokineticin. 1. Alternative splicing; Biological rhythms; Direct protein sequencing; Neuropeptide; Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                           28 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPWGKLGDSCHPLTRKNNFGNGRQERRKR 87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE-Skin secretion:
MEDLINE=99349621; PubMed=10422759; DOI=10.1016/S0014-2999(99)00229-0;
MADLIAP C., Wechselberger C., Mignogna G., Negri L., Melhiorri P.,
Barra D., Kreil G.;
                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Protein Bv8 precursor.
Bombina variegata (Yellow-bellied toad).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Amphibia, Batrachia, Anura; Archeobatrachia, Bombinatoridae, Bombina.
NCBI_TaxID=8348;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            venom induce hyperalgesia in rats.";
Eur. J. Pharmacol. 374:189-196(1999).
-!- FUNCTION: Potently contract gastrointestinal (GI) smooth muscle.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Bv8, a small protein from frog skin and its homologue from snake
                                                                                                                                                                                                                                                                                                                                                                        21;
                                                                                                                                                                                                                                                                                                                                         54.3%; Score 270.5; DB 1; Length 129; 45.9%; Pred. No. 6.5e-21;
                                                                                                                                                                                                                                                                                                                                                                        18; Indels
                                                                                                                                                                                                                                                                                                                                                                                                         1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHK
                                                                                                                                                                  Prokineticin 2.
By similarity.
By similarity.
By similarity.
By similarity.
By similarity.
Kinilarity.
Kinilarity.
Wissing (in isoform 2).
Kride-VSP 005219.
W; 0487679E8700DA55 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Induces hyperalgesia.
-!- SUBCELLULAR LOCATION: Secreted.
-!- SIMILARITY: Belongs to the prokinecitin family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          88 KRSKRKKEVPFFGRRMHHTCPCLPGLACLRTSFNRFIC 125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         48 -----VPFFRKRKHHTCPCLPNLLCSRFPDGRYRC 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                          14; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A., AND PARTIAL SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Interpro, IPR009523, Prokineticin.
Pfam, PF06607, Prokineticin, 1.
Direct protein sequencing, Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; AF168790; AAD45816.1; -.
                                                                                                                                                                                                                                                                                                         14314 MW;
                                                                                                                                                                                                                                                                                                                                                                          45; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STANDARD;
                                                                                                                                                                    129
46
58
107
                                                                                                                                                                                                                                                                                                         129 AA;
                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P25687; 11MT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           05-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BOMVA
                                                                                                                                                                                                    DISULFID
                                                                                                                                                                                                                                       DISULFID
DISULFID
                                                                                                                                                                                       DISULFID
                                                                                                                                                                                                                                                                                                         SEQUENCE
                                                                                                                                                                                                                                                                        VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           09PW66;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 тепош
                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BV8
      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
```

```
9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Degraman Front No. (1200 Cont.)

STRAIN-CS7BL/60; No. (1200 Cont.)

MEDLINE=22354683; PubMed=12466851; DOI=10.1038/nature01266;

MEDLINE=22354683; PubMed=12466851; DOI=10.1038/nature01266;

Mikaido I., Deato N., Saito R., Suzuki H., Yamanaka I., Kiyosawa H., Yagi K., Tomaru Y., Hasegawa Y., Nogami A., Schonbach C., Gojobori T., Baldarelli R., Hill D.P., Bult C., Hume D.A., Quackenbush J., Schriml L.M., Kanapin A., Matsuda H., Batalov S., Beisel K.W., Blake J.A., Bradt D., Brusic V., Chochia C., Corbani L.E., Cousins S., Dalla E., Dragani T.A., Pletcher C.F., Forrest A., Frazer K.S., Gasterland T., Gariboldi M., Gissi C., Godzik A., Gough J., Grimmond S., Guerincich S., Hirokawa N., Jackson I.J., Jarvis E.D., Kanai A., Kawaji H., Kawasawa Y., Kedzierski R.M., King B.L.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                       20 AVITGACDKDVQCGSGTCCAASAWSRNIRFCIPLGNSGEDCHPASHKVPYDGKRLSSLCP
                                                                                                                                                                                                                                                                                                                                                                                                            1 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE-20047850; PubMed=10580115; DOI=10.1016/S0014-5793(99)01473-8; Wechselberger C., Puglisi R., Lepperdinger G., Boitani C., Kreil G.; "The mammalian homologue of Bv8 from frog skin is mainly expressed in
                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE-2202134; PubMed-12024206; DOI=10.1038/417405a; Cheng M.Y., Bullock C.M., Li C., Lee A.G., Bermak J.C., Belluzzi J., Weaver D.R., Leslie F.M., Zhou Q.-Y.; Prokineticin 2 transmits the behavioural circadian rhythm of the suprachiasmatic nucleus.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Jilek A., Engel E., Beier D., Lepperdinger G.; "Murine Bv8 gene maps near a synteny breakpoint of mouse chromosome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota, Metarzoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus.
NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                   1;
                                                                                                                                                                                                                                                                        Score 267.5; DB 1; Length 96; Pred. No. 1e-20;
                                                                                                                                                                                                                                                                                                                                           21; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRKZ MOUSE STANDARD; PRT; 128 AA.
090XU7; 090XU5; 090XU6;
16-0CT-2001 (Rel. 40, Created)
16-0CT-2001 (Rel. 40, Last sequence update)
05-UUL-2004 (Rel. 44, Last annotation update)
Prokineticin 2 precursor (PK2) (Protein Bv8 homolog).
Name=Prok2; Synonyms=Bv8;
                                                                                                                                                                       Ny similarity.
A12490A7437609B4 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN=129/SvJ;
Pubmed=11054548; DOI=10.1016/S0378-1119(00)00355-3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FROM N.A. (ISOFORM 2), AND FUNCTION.
                            By similarity.
By similarity.
By similarity.
By similarity.
By similarity.
By similarity.
                                                                                                                                                                                                                                                                                                           Local Similarity 5/,/8, r.v....nes 45, Conservative 11, Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A. (ISOFORMS 1; 2 AND 3).
       Protein Bv8.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A. (ISOFORMS 1 AND 2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A. (ISOFORM 1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 CLPNLLCSRFPDGRYRCS 78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  80 CKSGLTCSKSGE-KFKCS 96
96
38
50
78
86
95
10102 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEBS Lett. 462:177-181(1999).
                                                                                                                                                                                                                                                                        53.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nature 417:405-410(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gene 256:189-195(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mus musculus (Mouse)
20
26
32
37
60
80
96 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          spermatocytes.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN=C57BL/6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      and human 3p21.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HID DOLD THE BEAR SEASON OF THE SEASON OF TH
```

```
7, 2005, 20:44:40; Search time 114.467 Seconds (without alignments) 273.682 Million cell updates/sec
                                                                                                                                                                         81
                                                                                                                                                                          1 AVITGACDKDSQCGGGMCCA.....LPGLACLRISFNRFICLAQK
                                                                                                                                                                                                                                                                                  2105692
5.1.6
Compugen Ltd
                                                                                                                                                                                                                                                                                  hits satisfying chosen parameters:
                                                                                                                                                                                                                                                  2105692 segs, 386760381 residues
GenCore version
Copyright (c) 1993 - 2005
                                                                                                                                                                                                                                                                                                                                                                         Match 100%
first 45 summaries
                                                         sw model
                                                                                                                                                                                                                      Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                      Geneseq_16Dec04:*
                                                                                                                                                                                                                                                                                                                                                                                                                                   geneseqp1980s:*
geneseqp1990s:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  geneseqp2000s:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              geneseqp20018:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              geneseqp2002s:*
                                                       protein search, using
                                                                                                                                                                                                                                                                                                                                                        Minimum Match 0%
Maximum Match 100
Listing first 45
                                                                                                                                                                                                                                                                                                           length: 0
length: 2000000000
                                                                                                                                              US-10-811-328-6
                                                                                     November
                                                                                                                                                                                                                                                                                                                                                              Post-processing:
                                                                                                                                                                                                                                                                                  οŧ
                                                                                                                                                                                                                                                                                                                   sed
                                                                                                                                              Title:
Perfect score:
                                                                                                                                                                                                         Scoring table:
                                                          •
                                                                                                                                                                                                                                                                                  Total number
                                                                                                                                                                                                                                                                                                                Minimum DB E
Maximum DB E
                                                         OM protein
                                                                                                                                                                             Sequence:
                                                                                                                                                                                                                                                      Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                      Database
                                                                                      Run on:
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

geneseqp2003as:\* geneseqp2003bs:\*

geneseqp2004s:

### Human Bv8 C-termina Abg94398 Human GPC Human Human Human Human Human Amino Human Amino Human Human Нишап Human Human Human Human Amino Human Human Human Amino Human Description Ads86957 F Ads00460 F Adn41861 Ads86981 F Abg94400 Add69044 F Adr24005 Adr24005 Aab68426 Abg94397 Aao15531 Abu07602 Aae36789 Add69039 Adf28067 Abg75087 Adj71811 Adn41839 Aae24384 SUMMARIES ADS86981 ABG94400 ADD69044 ADR24005 AAB68426 ABG94397 ADF28067 ABG75087 ADS86957 ADS00460 AAC15531 AAE24384 ABU07602 AAE24385 ADD69041 ADO05356 ABG94398 AA015530 ADD69039 ADN41839 AAE36789 ADJ71811 AD024421 ADN43258 ADN41861 DB Query Match Length 81 81 81 81 81 108 108 108 108 108 108 108 108 116 80 80 100.0 .00 80 00 00 00 8 Score Result Š

				Add69077 Murine Bv Ads00462 Murine Bv Adn43257 Amino aci	Human Human	Adj71815 Human pro Adm1864 Amino aci Ads6698 Human Zve Ads00459 Human Bv8
ABG94402 ABB06963 ADD69061	ADO05358 ADN43260 ADN43262	ABG94408 ABG94401 ABB06962	AAE36790 ADD69059	ADD69077 ADS00462 ADN43257	ADJ71808 AAE36788	ADJ71815 ADN41864 ADS86984 ADS00458
2 2 7	r & &	លលល	9	C 88 a	6 7 9	r & & &
81 81 81	81 81 81	107 107 107	107	107	124 124	129 129 129 129
96.5 96.5 86.5	96 96.5 8.6 8.5	96.59 96.55 5.56	96.5	96.5	95.6	95.6 95.6 95.6
4 4 5 4 5 4 5	4 4 4 2 4 4 5 3 5 5 5	4445 445 345	445 445	445	440.5	440.5 440.5 440.5 440.5
25 27 28	30 30	6 6 6 6 6 4	32	38	v 4 4 v 0 ∺	4 4 4 4 2 6 4 2

### ALIGNMENTS

antiinflammatory; antidiarrhoeic; neuroleptic; neuroprotective; receptor G-protein coupled receptor; GPCR; ZAQ; human; ZAQC; ZAQT; rat; ZAQ1; rZAQ1; rZAQ2; mouse; ISE receptor; mISE; GPR73; Bv8 protein; MIT1; digestive disorder; central nervous system disorder; CNS; diarrhoea; bowel inflammation; constipation; food absorption disorder; nootropic; Alzheimer's disease; Parkinson's disease; schizophrenia; laxative; Screening of compounds modifying the binding of G-protein coupled receptor protein ZAQ and related proteins to their ligands for use in treatment and diagnosis of digestive disorders. Watanabe T, Terao Y, Shintani Y; Human GPCR ligand Bv8 protein sequence #2. Ź Takatsu Y, ABG94398 standard; protein; 81 01-FEB-2002; 2002WO-JP000852. 02-FEB-2001; 2001JP-00026820 (TAKE ) TAKEDA CHEM IND LTD (first entry) Masuda Y, WPI; 2002-627537/67. N-PSDB; ABS71104. WO200262944-A2. Homo sapiens 27-NOV-2002 15-AUG-2002 Ohtaki T, Hinuma S; ABG94398; RESULT 1 ABG94398 

Claim 1; Page 165; 197pp; Japanese.

Bv8

Bv8

pro

Bv8

The present invention relates to a screening method for compounds for their ability to modify the binding of G-protein coupled receptor (GPCR) protein ZAQ and related proteins (human ZAQC, human ZAQT, rat ZAQ1 (rZAQ1), rZAQ2, human and mouse ISE (mISB) receptor, and mouse GPR33) to their ligands (the mature form of human, mouse or rat Bv8 protein). The receptor protein and ligand are contacted in the presence or absence of the test compound. The compounds are useful in a drug composition for the

CLPGLACLRTSFNRFICLAQK

```
Matches
                                                                                                RESULT 3
                                   g
                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  쉽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The invention comprises a method for producing an active peptide that has the same activity as a ZAQ ligand isolated from eukaryotic cells. The method of the invention is useful for the production of a physiologically active ZAQ ligand for use in preventing or treating digestive diseases (e.g. colitis and diarrhea). The present amino acid sequence represents a human physiologically active ZAQ ligand-related protein
                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Industrial production of physiologically-active ZAQ ligand by expressing in transformant prokaryote and refolding in redox buffer, for use in preventing or treating digestive diseases e.g. colitis and diarrhea.
treatment, and prevention of digestive and central nervous system (CNS) disorders, including bowel inflammation, diarrhoes, constipation, food absorption disorders, Alzheimer's disease, Parkinson's disease and schizophrenia. The present sequence represents a GPCR or related protein
                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human; ZAQ ligand; physiologically-active ZAQ ligand; digestive disease; colitis; diarrhoea.
                                                                                                                                                                                                                  1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                        AVITGACDKDSQCGGGMCCAVSIWKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Gaps
                                                                                                                                                                             ;
                                                                                                                                     Length 81;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 81;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Human physiologically-active ZAQ ligand-related protein 5.
                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                   / Match 100.0%; Score 461; DB 5; Local Similarity 100.0%; Pred. No. 3.2e-41; Nes 81; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; Score 461; DB 5;
; Pred. No. 3.2e-41;
0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nishimura O;
                                                                                                                                                                                                                                                                                                                                                                                                                                        ġ
                                                                                                                                                                                                                                                                                                CLPGLACLRISFNRFICLAQK 81
                                                                                                                                                                                                                                                                                                                                     81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 5; Page 83; 93pp; Japanese
                                                                                                                                                                                                                                                                                                                               CLPGLACLRTSFNRFICLAQK
                                                                                                                                                                                                                                                                                                                                                                                                                                      AAO15530 standard; protein; 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match

Best Local Similarity 100.0%;
Matches 81; Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    22-JAN-2001; 2001JP-00013027.
17-MAY-2001; 2001JP-00147759.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21-JAN-2002; 2002WO-JP000378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (TAKE ) TAKEDA CHEM IND LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Yamada T, Suenaga M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2002-566801/60.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 81 AA;
                                                                                                  Sequence 81 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WO200257443-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    24-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          25-JUL-2002
                                                                                                                                     Query Match
Best Local Si
Matches 81
                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AA015530;
                                                                                                                                                                                                                                                                                                                                                                                                                   AA015530
                                                                                                                                                                                                                                                                                                                                                                                                                                          8 \pm 8 
                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                       유
                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                   셤
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The invention relates to human prokineticin 1 and 2 polypeptides that stimulate gastrointestinal smooth muscle contraction and mucleic acid molecules encoding such polypeptides. Polypeptides of the invention are useful for treating disorders involving impaired gastrointestinal motility. They are useful for stimulating gastrointestinal motility in disorders such as irritable bowel syndrome, diabetic gastroparesis, postoperational ileus, chronic constipation and gastrointestinal reflux disease. The prokineticin antagonists are useful for inhibiting gastrointestinal motility in conditions of diarrhoea, malabsorptive disorders, inflammatory bowel disorders, inflectious diseases and intestinal cancers. The antagonists also act as analgesics. The present sequence is human prokineticin 2 mature protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New isolated human prokineticin 1 and 2 polypeptides that stimulate gastrointestinal smooth muscle contraction, useful for improving impaired gastrointestinal motility in irritable bowel syndrome, chronic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                            Human, prokineticin 2, gastrointestinal motility, intestinal cancer; irritable bowel syndrome; gastrointestinal reflux disease; diarrhoea; diabetic gastroparesis; chronic constipation; malabsorptive disorder; inflammatory bowel disorder; analgesic; infectious disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 5; Length 81;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%; Score 461; DB 5; 100.0%; Pred. No. 3.2e-41;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mismatches
                                                                                                                                                                                                                                                                                                                                                                                     Human prokineticin 2 mature protein.
         81
                                                         81
                                                                                                                                                                                                              Ź
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 3; Page 81; 86pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CLPGLACLRTSFNRFICLAQK
                                       CLPGLACLRISFNRFICLAQK
                                                                                                                                                                                                           AAE24385 standard; protein; 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLPGLACLRTSFNRFICLAQK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  03-NOV-2000; 2000US-0245882P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-NOV-2001; 2001WO-US047969
                                                                                                                                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          81; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (REGC ) UNIV CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2002-479752/51.
N-PSDB; AAD39322.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ehlert FJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 81 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WO200236625-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             constipation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                            04-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              10-MAY-2002
61
                                                                                                                                                                                                                                                                     AAE24385;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  zhou Q,
```

81

19

셤

9

셤 8

9

RESULT

```
irregular sleep-wake pattern syndrome; decreased amplitude syndrome; seasonal affective disorder; ultradian rhythm; daydreaming; urination; hunger; infardian rhythm; female sexual receptivity; CNS; central nervous syndrome; PK2 receptor antagonist; PK2 receptor agonist.
                                                                                                                                                                                                                                                                                                                           Screening for compounds for modulating circadian rhythm, for treating seasonal disorders, comprises determining ability of prokineticin-2 receptor antagonist or agonist to modulate one or more circadian rhythm function indicia.
                                                                                                                                                                                                                                                                                                                                                                                                                      Disclosure; SEQ ID NO 5; 164pp; English.
                                                                                                                                                                             15-APR-2003; 2003WO-US011538.
                                                                                                                                                                                                             15-APR-2002; 2002US-0372836P.
                                                                                                                                                                                                                                            (REGC ) UNIV CALIFORNIA
                                                                                                                                                                                                                                                                            Bullock CM;
                                                                                                                                                                                                                                                                                                            WPI; 2003-854028/79.
                                                                                                                 WO2003088904-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 81 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          81;
                                                                                     Homo sapiens
                                                                                                                                               30-OCT-2003.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local
                                                                                                                                                                                                                                                                              Zhou Q,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human; prokineticin 2; PK2; circadian rhythm; modulation; drug screening; circadian rhythm disorder; non-24-hour sleep-wake syndrome; rapid time-zone change syndrome; jetlag; work-shift syndrome; delayed phase sleep syndrome; advanced sleep phase syndrome;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The invention relates to a novel angiogenesis inhibitor comprising a compound that inhibits the activity of an amino acid sequence given in the specification. Angiogenesis-related proteins Bv8, ZAQ and ISE were utilised within the method of the invention. The molecules of the invention demonstrate cytostatic and antiinflammatory activities whilst the method may be useful for treatment and prevention of cancer, ovarian diseases, diabetic retinopathy and inflammatory disease. The current sequence is that of the human Bv8-related protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Angiogenesis inhibitors for treatment and prevention of cancer, ovarian diseases and inflammatory disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 AVITGACDKDSQCGGGGCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRWHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                  angiogenesis inhibitor; cytostatic; antiinflammatory; cancer; ovarian disease; diabetic retinopathy; inflammatory; ZAQ; Bv8; I5E;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 81;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%; Score 461; DB 7; 100.0%; Pred. No. 3.2e-41;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human major prokineticin 2 (PK2), SEQ ID NO:5.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 1; SEQ ID NO 19; 308pp; Japanese.
                                                                                                                      Human Bv8-related protein - SEQ ID 19.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADO05356 standard; protein; 81 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLPGLACLRISFNRFICLAOK 81
                          ADD69041 standard; protein; 81 AA
                                                                                                                                                                                                                                                                                                                                                                                                                Takatsu Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLPGLACLRISFNRFICLAQK
                                                                                                                                                                                                                                                                                                                 03-FEB-2003; 2003WO-JP001057
                                                                                                                                                                                                                                                                                                                                                04-FEB-2002; 2002JP-00027299
                                                                                                                                                                                                                                                                                                                                                                                (TAKE ) TAKEDA CHEM IND LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-JUL-2004 (first entry)
                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                Ohtaki T, Masuda Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 2003-646310/61.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity
Matches 81; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                              N-PSDB; ADD69042.
                                                                                                                                                                                                                                                 WO2003066860-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 81 AA;
                                                                                                                                                                                                                       Homo sapiens.
                                                                                      15-JAN-2004
                                                                                                                                                                                                                                                                                   14-AUG-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AD005356;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                          ADD69041;
                                                                                                                                                                                       human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 5
           ADD69041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AD00535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
```

```
The invention relates to a method of screening for a compound for its ability to modulate circadian rhythm. The method involved determining the ability to modulate circadian rhythm. The method involved determining the condulate one or more indicia or circadian rhythm function. The compound is identified as being a PK2 receptor agonist or antagonist to modulate one or more indicia or circadian rhythm function. The compound creation of PK2 and a receptor selected from the PK2 receptor (e.g., ADO05355) or the PK2 and a receptor (e.g., ADO05355). The invention is based on the findings that PK2 expression in that PK2 receptor activation modulates circadian rhythm in rats. The invention also relates to a method of modulating the circadian rhythm of an animal by administration of a PK2 receptor antagonist; a composition comprising a detectably labelled PK2 and an isolated mouse CC apk2 sene promoter (ADO05365-ADO05369) operably linked to a heterologous creation rhythm and for the light regulated expression of a nucleotic sequence; use of such constructs to identify modulators of circadian rhythm and for the light regulated expression of a nucleic acid modulating such an animal, and oligonucleotides at least 17 bases in length completed in an animal, and oligonucleotides at least 17 bases in length completed which are able to hybridise to the human PK2 promoter ADO05365. The modulating circadian rhythm are alser and PK2 promoter ADO05365. The modulating circadian rhythm and PK2 promoter ADO05365. The modulating circadian shiph are alser and PK3 receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         antagonists which promote sleep, and PKZ receptor agonists which promote alertness. The circadian rhythm modulators may be used in the treatment of circadian rhythm disorders such as non-24-hour sleep-wake syndrome, rapid time-zone change syndrome (jetlag), work-shift syndrome, delayato phase sleep syndrome, advanced sleep phase syndrome, irregular sleep-wake pattern syndrome, syndrome associated with decreased amplitude, and seasonal affective disorder. They may also be used for modulating biological rhythms with a periodicity of less than 24 hours (ultradian rhythm) such as daydreaming, urination or hunger, or those with a periodicity of more than 24 hours (infardian rhythm) such as sexual receptivity (heat) in female animals. The present sequence represents the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 81;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Score 461; DB 7; 100.0%; Pred. No. 3.2e-41;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
```

ò 요 8

ઠ 셤

```
anticonvuleant; antidepressant; antidiabetic; anti-HIV; antimanic; antiparkinsonian; cerebroprotective; cytostatic; eating disorders; endocrine; gastrointestinal; gynecological; hypotensive; neuroprotective; nootropic; ophthalmological; tranquilizer; vasotropic; vulnerary; monoclonal antibody; human; ZAQL-1; ligand; hybridoma cell; assay; diagnosis; endometrial cancer; endometriosis; ovulation disorder; diagnosis; endometrial cancer; endometriosis; eating disorder; sleeping disorder; seasonal depression; reproductive dysfunction; endocrine disease; senile dementia; Alzheimer's disease; anging; cerebral circulatory disorder; head trauma; spinal injury; epilepsy; anxiety; depression; schizophrenia; alcoholism; Parkinson's disease; hypertension; arteriosclerosis; arrhythmia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         monoclonal antibody having high avidity to human ZAQL-1 polypeptide,
                                                                                                                                antiangiogenic; antialcoholic; antiarrhythmic; antiarteriosclerotic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                useful for preventing, treating or diagnosing diseases such as
endometrial cancer, ovulation disorders, Alzheimer's disease, AIDS,
                                                                                                                                                                                                                                                                                                                                                                                                                         premenstrual disorder syndrome; glaucoma; AIDS; diabetes.
                                                                                       Human ZAQ-1 ligand-associated protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Parkinson's disease and diabetes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 21-JAN-2004; 2004WO-JP000498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22-JAN-2003; 2003JP-00014055
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (TAKE ) TAKEDA CHEM IND LTD.
                                           21-OCT-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2004-593431/57.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO2004065419-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matsumoto H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          05-AUG-2004.
ADR24005;
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The specification describes a method for identifying a compound that modulates neurogenesis. The method comprises providing a compound that modulates prokineticin receptor (PRR) signaling, contacting a neural stem corporates prokineticin receptor (PRR) signaling, contacting a neural stem or progenitor cell with the compound, and determining the ability of the neurogenesis or for identifying compounds that modulate neurogenesis. These are used for both ex vivo or in vivo therapeutic applications where neural regeneration is desirable, such as in Alzheimer's disease, parkineno's disease or other debilitating neurodesenerative diseases. The parkineno's disease or other debilitating neurodesenerative diseases. The parkineno's disease or the debilitating neurodesenerative diseases. The may be used in the method of the invention to modulate neurogenesis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Identifying a compound that modulates neurogenesis comprises contacting a neural stem or progenitor cell with a compound that modulates prokineticin receptor signaling and determining its ability to modulate neurogenesis.
                                                                                                                                                                                                                                                                                                                             neurogenesis, prokineticin receptor; PKR; neural stem; progenitor cell; neural regeneration; Alzheimer's disease; Parkinson's disease; neurodegenerative disease; prokineticin 2; PK2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;
0
                                                                                                                                                                                                                                                                                      Amino acid sequence of human prokineticin 2 (PK2) isoform 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 81;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 100.0%; Score 461; DB 8;
100.0%; Pred. No. 3.2e-41;
ive 0; Mismatches 0;
                         61 CLPGLACLRTSFNRFICLAQK 81
                                                                                                                                                     ADN43258 standard; protein; 81 AA
CLPGLACLRTSFNRFICLAOK 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 26; Fig 6B; 103pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          03-OCT-2003; 2003WO-US031626.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   04-OCT-2002; 2002US-0416202P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
Local 81; Conservative
Then 81; Conservative
                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (REGC ) UNIV CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2004-340794/31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Cheng MY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO2004032851-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 81 AA;
                                                                                                                                                                                                                                             15-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              22-APR-2004
61
                                                                                                                                                                                                 ADN43258;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Zhou Q,
                                                                                                                                                                                                                                                                                                                                                                                                                         Ношо
                                                                                                                              ADN43258
```

Ohtaki T;

Horikoshi Y, Masuda Y,

```
the invention relates to a monoclonal antibody (I) having high avidity to human ZAQL-1 ligand polypeptides, comprising either of two fully defined sequences of 86 amino acids (S1). (I) is ZL1-107a or ZL1-234 a produced comparing of 86 amino acids (S1). (I) is ZL1-107a or ZL1-234 produced comparing out assay of the polypeptide containing (S1) which involves reacting (I) with the test-liquid containing the polypeptide or its salt, and measuring the ratio of the polypeptide bound to (I). (I) is useful as a diagnostic or therapeutic agent for diagnosis and/or treatment of diseases such as endometrial cancer, endometriosis or convlation disorders, digestive diseases, diseases associated with angiogenesis, diseases relating to pregnancy, eating disorder, sleeping disorder, seasonal depression, reproductive dysfunction, endocrine of seasonal circulatory disorders, diseases, various disorders caused by aging, cerebral circulatory disorder, shead trauma, spinal injury, epilepsy, anxiety, depression, manic depression, schizophrenia,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         alcoholism, Parkinson's disease, hypertension, arteriosclerosis, arrhythmia, premenstrual disorder syndrome, glaucoma, AIDS, diabetes, etc. This sequence corresponds to a ZAQ-1 ligand associated protein used
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 8; Length 81;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  100.0%; Score 461; DB 8;
100.0%; Pred. No. 3.2e-41;
ive 0; Mismatches 0;
Claim 4; SEQ ID NO 3; 64pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    81; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 81 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
```

9 9

1 AVITGACDKDSQCGGGGCAVSIWKSIRICTPMGKLGDSCHPLTRKVPFGRRMHHTCP

81

CLPGLACLRTSFNRFICLAOK CLPGLACLRTSFNRFICLAQK

61

8 셤 ò 원 ADR24005 standard; protein; 81 AA.

RESULT 7 ADR24005 ΩX

ઠે a

```
The present sequence represents a human Zven1 polypeptide. The Zven1 gene is present on chromosome 3p21.1-3p14.3. The specification also describes Zven2.2 zven polymorleotides and polypeptides are useful in veterinary and human therapeutics, for treating small cell cancer of the lung, to bromote wound healing, to prevent or to treat an adverse reaction of the promote wound healing, to prevent or a skin-iritating agent, to stimulate the immune system of an immunocompromised individual, as antitumour agents, as antiinflammatory agents, as agents to regulate regeneration or remodeling of tissue, as agents to modulate necrosis or tissue growth developmental arrest, to inhibit proliferation of tumour cells, cellular differentiation and necrosis, to treat disorders associated with gestrointestinal cell contractility, secretion of digestive enzymes and caids, and conditions associated with hypermotility such as
                                                                                                                                                                                                                                                                Zvenl; 3p21.1; 3p14.3; Zven2; small cell lung cancer; wound healing;
antitumour; antiinflammatory; necrosis; tissue growth; digestive enzyme;
cellular differentiation; gastrointestinal cell contractility;
gastrointestinal motility; inflammation; hypermotility; diarrhoea;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Novel isolated Zven polypeptide useful for inhibiting proliferation of tumor cells, for treating small cell cancer of lung, to promote wound healing, and for treating Crohn's disease and diarrhea.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 108;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Thompson PP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ch 100.0%; Score 461; DB 4; I Similarity 100.0%; Pred. No. 4.3e-41; 81; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                Amino acid sequence of a human Zvenl polypeptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sheppard PO, Bishop PD, Whitmore TE,
                                                                                                                          Z
                    61 CLPGLACLRTSFNRFICLAQK 81
81
                                                                                                                          AAB68426 standard; protein; 108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 4; Page 3; 98pp; English
CLPGLACLRTSFNRFICLAOK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          16-NOV-1999; 99US-00442164.
25-FEB-2000; 2000US-00511879.
19-APR-2000; 2000US-00552203.
07-UUN-2000; 2000US-0210332P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          14-NOV-2000; 2000WO-US031278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (ZYMO ) ZYMOGENETICS INC.,
                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2001-355611/37.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N-PSDB; AAF85368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 108 AA;
                                                                                                                                                                                                                                                                                                                                               Crohn's disease
                                                                                                                                                                                                                                                                                                                                                                                                                    WO200136465-A2
                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens.
                                                                                                                                                                                                23-JUL-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                        25-MAY-2001
   61
                                                                                                                                                            AAB68426;
                                                                                                       AAB68420
                                                                                      RESULT
```

```
The present invention relates to a screening method for compounds for their ability to modify the binding of G-protein coupled receptor (GPCR) protein ZAQ and related proteins (human ZAQC, human ZAQT, rat ZAQ1 (rZAQ1), rZAQ2, human and mouse ISE (mISE) receptor, and mouse GPR73) to their ligands (the mature form of human, mouse or rat Bv8 protein). The receptor protein and ligand are conteacted in the presence or absence of the test compound. The compounds are useful in a drug composition for the treatment, and prevention of digestive and central nervous system (CNS) disorders, including bowel inflammation, diarrhoes a constipation, food
                                                                                                                                                                                                                                                  G-protein coupled receptor; GPCR; ZAQ; human; ZAQC; ZAQT; rat; ZAQ1; rZAQ1; rZAQ2; mouse; ISE receptor; mISE; GPR73; Bv8 protein, MIT1; digestive disorder; central nervous system disorder; CNS; diarrhoea; bowel inflammation; constipation; food absorption disorder; nootropic; Alzheimer's disease; Parkinson's disease; schizophrenia; laxative; antiinflammatory; antidiarrhoeic; neuroleptic; neuroprotective; receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                absorption disorders, Alzheimer's disease, Parkinson's disease and schizophrenia. The present sequence represents a GPCR or related protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Screening of compounds modifying the binding of G-protein coupled receptor protein ZAQ and related proteins to their ligands for use in treatment and diagnosis of digestive disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   28 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Watanabe T, Terao Y, Shintani Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 108;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100.0%; Score 461; DB 5;
100.0%; Pred. No. 4.3e-41;
ive 0; Mismatches 0;
                                                                                                                                                                                                                      Human GPCR ligand Bv8 protein sequence #1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Example 3; Page 164; 197pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CLPGLACLRTSFNRFICLAQK 108
                     ABG94397 standard; protein; 108 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLPGLACLRTSFNRFICLAQK 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Masuda Y, Takatsu Y,
CLPGLACLRISFNRFICLAOK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-FEB-2002; 2002WO-JP000852.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            02-FEB-2001; 2001JP-00026820.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (TAKE ) TAKEDA CHEM IND LTD
                                                                                                                                                                                       27-NOV-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 81; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2002-627537/67.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N-PSDB; ABS71103.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 108 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                       WO200262944-A2.
                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          15-AUG-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ohtaki T,
Hinuma S;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                       ABG94397;
61
                                  88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                     ABG94397
                                                                                   RESULT
                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
 ò
                                셤
```

ö

9 87

> ö 9 87

Gaps . 0

Indels

1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP

28

Query Match Best Local S

Best Loca Matches

8 g us-10-811-328-6.rag

/note= "Mature human prokineticin 2"

1. .27
/label= Signal\_peptide Location/Qualifiers

.108

```
01-NOV-2001; 2001WO-US047969
                                                                                                                                                            03-NOV-2000; 2000US-0245882P
                                                                                                                                                                                 (REGC ) UNIV CALIFORNIA.
                                                                                                                                                                                                                             WPI; 2002-479752/51.
                                                                                                                                                                                                       Ehlert FJ;
                                                                                                                                                                                                                                        N-PSDB; AAD39322.
                                                                                            WO200236625-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human; ZVEN1;
          Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ma.
Local br.
81;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens
                                                                                                                                                                                                                                                                                              constipation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              10-MAY-2003
                                                                                                                   10-MAY-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Human ZVEN1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ABU07602;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                       Zhou Q,
                                       Peptide
                                                              Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 12
                               Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABU07602
ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      X S X E X E X E X S X S X S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ô
                                                                                                                                                                                                                                                                                                                                                                                                    The invention comprises a method for producing an active peptide that has the same activity as a ZAQ ligand isolated from eukaryotic cells. The method of the invention is useful for the production of a physiologically active ZAQ ligand for use in preventing or treating digestive diseases (e.g. colitis and diarrhea). The present amino acid sequence represents a human physiologically active ZAQ ligand-related protein
                                                                                                                                                                                                                                                                                                                                     Industrial production of physiologically-active ZAQ ligand by expressing in transformant prokaryote and refolding in redox buffer, for use in preventing or treating digestive diseases e.g. colitis and diarrhea.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    87
                                                                                                       Human; ZAQ ligand; physiologically-active ZAQ ligand; digestive disease;
colitis; diarrhoea.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         28 AVITGACDKDSQCGGGCCAVSIWVKSIRICTPWGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human; prokineticin 2; gastrointestinal motility; intestinal cancer; irritable bowel syndrome; gastrointestinal reflux disease; diarrhoea; diabetic gastroparesis; constipation; malabsorptive disorder; inflammatory bowel disorder; analgesic; infectious disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Score 461; DB 5; Length 108; llarity 100.0%; Pred. No. 4.3e-41; Conservative 0; Mismatches 0; Indels
                                                                                            Human physiologically-active ZAQ ligand-related protein 6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human prokineticin 2 precursor protein.
                                                                                                                                                                                                                                                                                                                                                                                 Disclosure, Page 88; 93pp; Japanese.
                                                                                                                                                                                                                                                                                            Nishimura O;
                              AAO15531 standard; protein; 108 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        88 CLPGLACLRISFNRFICLAQK 108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAE24384 standard; protein; 108 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 CLPGLACLRISFNRFICLAQK 81
                                                                                                                                                                                                                 21-JAN-2002; 2002WO-JP000378
                                                                                                                                                                                                                                      22-JAN-2001; 2001JP-00013027
17-MAY-2001; 2001JP-00147759
                                                                                                                                                                                                                                                                       (TAKE ) TAKEDA CHEM IND LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                            Suenaga M,
                                                                                                                                                                                                                                                                                                                  WPI; 2002-566801/60.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
hes 81; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 108 AA;
                                                                                                                                                                      WO200257443-A1
                                                                                                                                                   Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              04-OCT-2002
                                                                        24-OCT-2002
                                                                                                                                                                                            25-JUL-2002
                                                                                                                                                                                                                                                                                            Yamada T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAE24384;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAE24384
                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
```

```
ö
                                      gastrointestinal smooth muscle contraction, useful for improving impaired gastrointestinal motility in irritable bowel syndrome, chronic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       87
                                                                                                                                                                                                                                                                                        stimulate gastrointestinal mooth muscle contraction and nucleic acid molecules encoding such polypeptides. Polypeptides of the invention are useful for treating disorders involving impaired gastrointestinal motility. They are useful for stimulating gastrointestinal motility in disorders such as irritable bowel syndrohe, diabetic gastroparesis, post operational ileus, chronic constipation and gastrointestinal reflux disease. The prokineticin antagonists are useful for inhibiting gastrointestinal motility in conditions of disractions motility in conditions of disractions and absorptive disorders, inflammatory bowel disorders, infectious diseases and intestinal cancers. The antagonists also act as analgesics. The present
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            28 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 AVITGACDKDSQCGGGCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                 invention relates to human prokineticin 1 and 2 polypeptides that
New isolated human prokineticin 1 and 2 polypeptides that stimulate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 108;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sequence is human prokineticin 2 precursor protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.0%; Score 461; DB 5;
100.0%; Pred. No. 4.3e-41;
tive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLPGLACLRISPNRFICLAQK 108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ABU07602 standard; protein; 108 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        81
                                                                                                                                                                                        Example 1; Fig 1; 86pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLPGLACLRISFNRFICLAOK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 108 AA;
```

26-NOV-2002

```
The present invention relates to a novel method of inducing proliferation of endothelial cells or enhancing cell survival, involving contacting the cells with Bv8 or introducing a nucleic acid encoding Bv8 into the cells cells with Bv8 or introducing a nucleic acid encoding Bv8 into the cells to inducing proliferation or endothelial of the cells. The method is useful for inducing proliferation of endothelial cells and to enhance cell survival, where the cells are vascular endothelial cells, especially steroidogenic endothelial cells. It is useful for inhibiting endothelial cell proliferation, for treating cancer (e.g., hormone-dependent cancer or cancer of the reproductive organs, especially testicular cancer) in commanians preferably human. The method of the invention is also useful for treating a condition is associated with hormone producing tissue which is elected from lipoid congenital adrenal hyperplasia, infertility, sexual maturation, androgen-dependent tumours, precocious puberty, adrenal-chypoplasia congenita, McCune-Albright syndrome and hypogonadotropic hypogonadism. The present sequence is human Bv8 homologue splice variant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Inducing proliferation of endothelial cells or enhancing cell survival, by contacting the cells with Bv8 or introducing nucleic acid encoding Bv8 into cells to induce proliferation or to enhance survival of the cells.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 AVITGACDKDSQCGGGMCCAVSIWVKSIRIĞTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                          22. .108
/note= "Human mature Bv8 homologue splice variant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100.0%; Score 461; DB 6; Length 1
100.0%; Pred. No. 4.3e-41;
.ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                          "Myristoylation site"
                                                                                                               41. .46
/note="Myristoylation site"
42. .47
/note="Myristoylation site"
                                                                                                                                                                                                                                                                       /note= "Amidation site"
                     Signal-peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLPGLACLRISFNRFICLAQK 108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 CLPGLACLRTSFNRFICLAQK 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 8; Fig 4; 87pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                              27-AUG-2002; 2002WO-US027571.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           29-AUG-2001; 2001US-0316184P
                                                                                                                                                                                        81; Conservative
                                                                                     protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ferrara N, Le Couter J;
.. .21
/label=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WPI; 2003-290180/28.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       N-PSDB; AADSS707
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 108 AA;
                                                                                                                                                                                                                                                                                                                    WO2003020892-A2
                                                                                                               Modified-site
                                                                                                                                                       Modified-site
                                                                                                                                                                                                       Modified-site
                                                                                                                                                                                                                                                 Modified-site
                                                                                                                                                                                                                                                                                                                                                                 13-MAR-2003.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local
                                             Protein
  Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 14
ADD69039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The invention relates to an isolated mucleic acid molecule (I) that encodes a Zvenl polypeptide. (I) is useful for inhibiting the proliferation of tumour cells, as probes or primers to clone 5 non-coding regions of a Zven gene, to direct the expression of heterologous gene in tissues of, for example, transgenic animals or patients treated with gene therapy, to detect the expression of a Zvenl or ZvenZ gene in a biological sample, to detect that modulate the response of a cherrophil to a pathogen, to determine whether a subject's chromosomes contain a mutation in the Zven gene, or to detect abstrations in Zvenl or ZvenZ joucus (I) is useful as educational tools, as laboratory practicum kits for courses related to genetics and molecular biology, protein chemistry and antibody production and analysis. The present sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human, cell proliferation; cancer, lipoid congenital adrenal hyperplasia, Bv8, androgen-dependent tumour; precocious puberty; sexual maturation; adrenal-hypoplasia congenita; infertility; hypogonadotropic hypogonadism; McCune-Albright syndrome; cytostatic; anglogenic; variant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  28 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP 87
                                                                                                                                                                                                                                                                                                                                                                                                              Novel isolated nucleic acid molecule that encodes a Zvenl polypeptide, useful for inhibiting the proliferation of tumor cells, or to detect the expression of a Zvenl or Zven2 gene in a biological sample.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%; Score 461; DB 6; Length 108; 100.0%; Pred. No. 4.3e-41;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Human Bv8 homologue splice variant protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAE36789 standard; protein; 108 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLPGLACLRTSFNRFICLAOK 108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLPGLACLRTSFNRFICLAQK 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 17; Col 3; 37pp; English
                                                                                                                                         16-NOV-1999; 99US-0165905P.
25-FEB-2000; 2000US-0184875P.
19-APR-2000; 2000US-0197750P.
07-JUN-2000; 2000US-0210332P.
                                                                                                 14-NOV-2000; 2000US-00712529
                                                                                                                                                                                                                                                                                                                                                                        N-PSDB, ABX12102, ABX12103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             07-AUG-2003 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                        (ZYMO ) ZYMOGENETICS INC.
                                                                                                                                                                                                                                                                                                     Sheppard PO, Bishop PD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                WPI; 2003-287426/28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 108 AA;
         US6485938-B1.
```

ö

Gaps

; 0

Length 108;

9 87

ADD69039 standard; protein; 108 AA

ADD69039;

Location/Qualifiers

Homo sapiens.

AAE36789;

RESULT 13

AAE36789

61

8 g ð g Synthetic

Key

us-10-811-328-6.rag

human.

```
The invention desribes an isolated Zvenl polypeptide comprising a sequence that is at least 70% identical to amino acid residues 23-108 of the 108-amino acid sequence and that binds with an antibody that specifically binds with a polypeptide comprising the sequence comprising 108 amino acids. The polypeptide has cytostatic properties and is useful in gene therapy. The protein is Zvenl procein and useful for preparing a composition for treating e.g. cancer. This sequence encodes the novel human polypeptide Zvenl encoded by a gene found on chromosome 3p21.1-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PROK1; PROK2; G protein-coupled receptor 192; GPCR 192; ligand; cancer;
                                                                                                                                                                                                                                                                      Zven1 protein, useful for preparing a composition for treating e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            28 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPWGKLGDSCHPLTRKVPFFGRRWHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Buckholz T, Vandenberg M, Pellegrino C, Heitmeier S, Taylor I;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 108;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     metabolic disorder; central nervous system disorder; gastrointestinal disorder; immune disorder; neuroprotective; immunosuppressive; cytostatic; agonist; antagonist
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%; Score 461; DB 7; 100.0%; Pred. No. 4.3e-41;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Mismatches
                                                                                                                                                                                                                                                                                                                             Claim 1; SEQ ID NO 2; 41pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ABG75087 standard; protein; 108 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLPGLACLRTSFNRFICLAQK 108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLPGLACLRTSFNRFICLAQK
                                990S-0165905P.
2000US-0184875P.
2000US-0197750P.
2000US-0210332P.
2000US-00712529.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human prokineticin 2 (PROK2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            28-MAR-2003; 2003WO-US009522.
02-AUG-2002; 2002US-00212201
                                                                                                                                                                                                                                    N-PSDB; ADF28066, ADF28068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   11-MAR-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (FARB ) BAYER PHARM CORP.
                                                                                                                                           (ZYMO ) ZYMOGENETICS INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                               Bishop PD;
                                                                                                                                                                                                                 WPI; 2003-897549/82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 108 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO2003083073-A2
                                                   25-FEB-2000; 219-APR-2000; 207-JUN-2000; 2
                                                                                                                                                                             Sheppard PO,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                28-MAR-2002;
                                                                                                         14-NOV-2000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens
                                   16-NOV-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          09-OCT-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       81;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ABG75087;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local
                                                                                                                                                                                                                                                                                             cancer.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 16
                                                                                                                                                                                                                                                                        New
요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The invention relates to a novel angiogenesis inhibitor comprising a compound that inhibits the activity of an amino acid sequence given in the specification. Angiogenesis-related proteins Bv8, ZAQ and ISE were utilised within the method of the invention. The method of the invention demonstrate cytostatic and antiinflammatory activities whilst the method may be useful for treatment and prevention of cancer, ovarian diseases, diabetic retinopathy and inflammatory disease. The current sequence is that of the human Bv8-related protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Zvenl; cytostatic; gene therapy; cancer; human; chromosome 3p21.1-3p14.3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cancer, ovarian
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   28 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                      angiogenesis inhibitor; cytostatic; antiinflammatory; cancer; ovarian disease; diabetic retinopathy; inflammatory; ZAQ; Bv8; ISE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 108;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             treatment and prevention of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 461; DB 7; Pred. No. 4.3e-41; 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Example 3; SEQ ID NO 17; 308pp; Japanese.
                                                   Human Bv8-related protein - SEQ ID 17.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ŕ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLPGLACLRISFNRFICLAOK 108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Angiogenesis inhibitors for treatm
diseases and inflammatory disease.
                                                                                                                                                                                                                                                                                                                                                                                    Takatsu Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADF28067 standard; protein; 108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 CLPGLACLRISFNRFICLAQK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    100.08;
                                                                                                                                                                                                                                                                        03-FEB-2003; 2003WO-JP001057
                                                                                                                                                                                                                                                                                                            04-FEB-2002; 2002JP-00027299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.08;
                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity 100.
es 81; Conservative
                                                                                                                                                                                                                                                                                                                                                                                  Masuda Y,
                                                                                                                                                                                                                                                                                                                                              (TAKE ) TAKEDA CHEM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first
                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2003-646310/61
                                                                                                                                                                                                                                                                                                                                                                                                                                         N-PSDB; ADD69040
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 108 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US2003148317-A1
                                                                                                                                                                                                  WO2003066860-A1
                                                                                                                                                                Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human Zven 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
                 15-JAN-2004
                                                                                                                                                                                                                                      14-AUG-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     12-FEB-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     07-AUG-2003
                                                                                                                                                                                                                                                                                                                                                                                    Ohtaki T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADF28067;
```

RESULT 15 ADF28067

ઠ а Š 셤 ö

Gaps

. 0

9 87

```
ADN41839;
                                screening
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADN41839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ద
                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                           ઠ
                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 laxative; antiinflammatory; neuroprotective; nootropic; antiparkinsonian; antirheumatic; antiarthritic; antidabetic; antiallergic; antiasthmatic; vulnerary; cytostatic; antibacterial; virucide; gene therapy; prokineticin; diagnostics; forensics; gene mapping; drug screening; biodiversity; impaired gastrointestinal motility; chronic constipation; diabetic gastroparesis; incitable bowel syndrome; postoperational ilous; anglogenerative disease; irritable bowel syndrome; postoperational ilous; neurodegenerative disease; halbeimer's disease; Parkinson's disease; autoimmune disorder; rheumatoid arthritis; diabetes; allergy; asthma;
                                                     Identifying an agonist or antagonist of G-protein-coupled-receptor 192, GPCR), useful for treating metabolic or immune disorders, or cancer comprises contacting GPCR 192 with a test compound, and detecting agonist or antagonist activity.
                                                                                                                               The present invention relates to a method of identifying an agonist or antagonist of G protein-coupled receptor (GPCR) 192, which comprises contacting GPCR 192 with a test compound, and detecting agonist or antagonist activity. The methods and compositions containing the agonist or antagonist are useful in the manufacture of a medicament for treating central nervous system, metabolic or immune disorders, or cancer. The present sequence is human provinction 2 (PROK2) as shown in the exemplification of the invention
                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                  87
                                                                                                                                                                                                                                                                                                           1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                         28 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTFWGKLGDSCHPLTRKVPFFGRRWHHTCP
                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                               100.0%; Score 461; DB 7; Length 108; 100.0%; Pred. No. 4.3e-41;
                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                       0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Drmanac RT;
                                                                                                                                                                                                                                                                                                                                                                                                                                           ADJ71811 standard; protein; 108 AA.
                                                                                                                                                                                                                                                                                                                                                                         61 CLPGLACLRISFNRFICLAQK 81
                                                                                                              Claim 12; Fig 6; Opp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human prokineticin 2 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      04-NOV-2002; 2002WO-US035465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             02-NOV-2001; 2001US-0343902P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Liu C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         06-MAY-2004 (first entry)
                                                                                                                                                                                                                                                                                        81; Conservative
                     2003-788345/74.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ghosh MJ, Tang TY,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2003-441552/41
                                                                                                                                                                                                                                                                            Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (HYSE-) HYSEQ INC
                                  N-PSDB; ACH00975
                                                                                                                                                                                                                                            Sequence 108 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VO2003040326-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             wounds; cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15-MAY-2003.
  Gedrich R;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADJ71811;
                                                                                                                                                                                                                                                                                                                                                                                   88
                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 17
                                                                                                                                                                                                                                                                                                                                                                                                                                              a
                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                ð
```

```
The invention relates to novel prokineticin-like polypeptides and polynucleotides. The polynucleotide and polypeptide are useful in diagnostics. Foreniscs, gene mapping, drug screening, identification of mutations responsible for genetic disorders or traits, to assess biodiversity, and to produce many other types of data and products dependent on DNA and amino acid sequences. The polynucleotide and polypeptide may also be used for treating diseases due to impaired gastroparesis, irritable bowel syndrome or postoperation, diabetic gastroparesis, irritable bowel syndrome or postoperations ileus), for requiating angiogenesis and neovascularization, as well as growth and requiating angiogenesis and neovascularization, as well as growth and cavelopment in heart and other tissues, for treating sperm disorders including azoospermia, neurodegenerative diseases (e.g. Alzheimer's disease or parkinson's disease), autoimmune disorders (e.g. Alzheimer's disease or barkinson's disease), autoimmune disorders (e.g. rheumatcid arthritis, diabetes, allergy or asthma), wounds, cancer or infections. This sequence corresponds to a protein which has similarity to the novel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                human; Zven1; Zven2; prokineticin2; prokineticin1; G-protein coupled receptor; GPCR73a; GPCR73b; inflammation; intestine; inflammatory bowel disease; irritable bowel syndrome; ulcerative colitis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                87
                                      preventing or treating impaired gastrointestinal motility, cancer or neurodegenerative or autoimmune disorders, and for gene mapping or drug
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    28 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRWHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
prokineticin-like polynucleotide and polypeptide for diagnosing,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 108;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Amino acid sequence of a human Zven1 polypeptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   100.0%; Score 461; DB 7;
100.0%; Pred. No. 4.3e-41;
iive 0; Mismatches 0;
                                                                                                                                                                        Disclosure; SEQ ID NO 17; 132pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /note= "mature protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADN41839 standard; protein; 108 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       88 CLPGLACLRTSFNRFICLAQK 108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 CLPGLACLRISFNRFICLAOK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    07-0CT-2002; 2002US-0416718P.
07-0CT-2002; 2002US-0416719P.
16-DEC-2002; 2002US-0433918P.
16-DEC-2002; 2002US-0434116P.
03-0CT-2003; 2003US-0508603P.
03-0CT-2003; 2003US-0508614P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         07-OCT-2003; 2003WO-US031562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Crohn's disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 108 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WO2004032850-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      22-APR-2004.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15-JUL-2004
```

Wood WI;

Schoenfeld J,

Wu TD,

```
Clark H,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Human Zvenl protein.
 Bodary S,
                       2004-420080/39
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local Similarity
                                   N-PSDB; ADO24420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 108 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             81;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADS86957;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       88
 Abbas A,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             fatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADS86957
  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                 The present sequence represents a human Zven1 polypeptide. Zven1 and Zven2 are also known as prokineticin2 and prokineticin1, respectively. Receptors for Zven1 and Zven2 have been identified as G-protein coupled receptors, GPCR73a and GPCR73b. The specification describes a method for reducing or treating inflammation in the intestine of a mammal, comprising administering a Zven1 or Zven2 antagonist to reduce the that binds Zven1 or Zven2 antagonist is preferably a receptor that binds Zven1 or Zven2. The method is useful for diagnosing or treating inflammatory bowel disease, irritable bowel syndrome, ulcerative colitis, or Crohn's disease.
                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                          87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRO; antianaemic; antiarthritic; antiinflammatory; antipsoriatic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        juvenile chronic arthritis, systemic lupus erythematosus, spondyloarthropathy, systemic sclerosis, idiopathic inflammatory myopathy, Sjogren's syndrome; systemic vasculitis, sarcoldosis, autoimmune haemolytic anaemia; sutoimmune disease, immune-mediated skin disease; bullous skin disease,
                                                                                                                                                                                                                                                                                                                                                                  28 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPWGKLGDSCHPLTRKVPFFGRRWHHTCP
                                                                                                                                                                                                                                                                                                                                                     1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                Treating inflammatory bowel disease or irritable bowel syndrome in mammals comprises administering to the mammal a Zven1 or Zven2 polypeptide or nucleic acid molecule, or a Zven1 or Zven2 antagonist.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     erythema multiforme; contact dermatitis; psoriasis; lymphadenopathy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        antirheumatic; dermatological; immunostimulant; immunosuppressive; osteopathic; vasotropic; immune related disease; inflammatory immune response; rheumatoid arthritis; osteoarthritis;
                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                        Length 108;
                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                               ..
                                                                                                                                                                                                                                                                                                        Score 461; DB 8;
Pred. No. 4.3e-41;
                                                                                                                                                                                                                                                                                                                               0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human PRO28691 protein SEQ ID NO:60.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ¥.
                                                                                                                                                                                                                                                                                                                                                                                                                CLPGLACLRISFNRFICLAQK 108
                                                                                                                                                                                                                                                                                                                                                                                                    81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AD024421 standard; protein; 108
                                                                                                                              Claim 5; Page 3; 147pp; English
                                                                                                                                                                                                                                                                                                                                                                                                   CLPGLACLRTSFNRFICLAQK
                                                                                                                                                                                                                                                                                                        100.0%;
100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 12-NOV-2002; 2002US-0425931P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          12-NOV-2003; 2003WO-US036002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                splenomegaly; leukopaenia.
                       Thompson PJ, Sheppard PO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                Local Similarity 100.
 (ZYMO ) ZYMOGENETICS INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GETH ) GENENTECH INC.
                                              2004-340793/31.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WO2004043397-A2.
                                                                                                                                                                                                                                                                                 Sequence 108 AA;
                                                         N-PSDB; ADN41838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 12-AUG-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    27-MAY-2004
                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AD024421;
                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 19
                                                WPI.
                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
```

```
The present invention describes an isolated human PRO polypeptide (1).

Also described: (1) an isolated PRO nucleic (II) acid encoding (I); (2) a vector (II) comprising (II); (3) a host cell (IV) comprising (II); (4) producing (I); (5) a chimeric molecule (V) comprising (II); (4) producing (I); (5) a chimeric molecule (V) comprising (II) theed to a composition of matter comprising (I) an agonist of (I), an antagonist of (I), or (VI) in combination with a carrier; (8) creating (MI) an immune related disease in a mammal, by administering (I), an agonist of (I), an antagonist of (I), or the antibody (VI); (9) diagnosing an immune related disease in a mammal, by detecting the level of expression of a gene encoding (I) in a test sample of tissue cells obtained from the mammal and in a control sample of known normal tissue cells of the same cell type; (10) identifying a compound that inhibits cells of the same cell type; (10) identifying a compound that inhibits cells of the activity of (I); (II) identifying a compound that inhibits the mammal, by administering (I) or its antagonist to the mammal. (I) has antianaemic, antiarthritic, antinflammatory, antipsoriatic, antianaemic, antiarthritic, antinflammatory, antipsoriatic, corecopathic and vasotropic activities. (I) and (VI) are useful for diagnosing an immune related disease in a mammal. (VI) is useful for the polypeptide. (MI) is useful for treating mammal having an immune correct lunds artheritis, seteoarthritis, seteoarthritis, seteoarthritis, seteoarthritis, seteoarthritis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       dermatitis, psoriagis, lymphadenopathy, splenomegaly and leukopaenia. The present sequence represents a human PRO protein from the present invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         28 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPWGKLGDSCHPLTRKVPFFGRRMHHTCP 87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         gastrointestinal; anabolic; gastrointestinal contractility;
gastric emptying; intestinal transit; gastroparesis; chemokine release;
neutrophil infiltration; appetite; weight gain; sensitization;
New isolated PRO polypeptide e.g. PRO37544, PRO69493, PRO87327 etc, capable of stimulating an immune response, useful for treating diseases such as rheumatoid arthritis, psoriasis, and leukopenia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     juvenile chronic arthritis, systemic lupus erythematosus, spondyloarthropathies, systemic sclerosis, idiopathic inflammatory myopathies, Sjogran's syntemic vasculitis, sarcoidosis, autoimmune haemolytic anaemia, autoimmune or immune-mediated skin diseases including bullous skin diseases, erythema multiforme and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 108;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%; Score 461; DB 8; 100.0%; Pred. No. 4.3e-41;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Mismatches
                                                                                                                                                                                  Claim 9; SEQ ID NO 60; 326pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADS86957 standard; protein; 108 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CLPGLACLRTSFNRFICLAQK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           18-NOV-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
```

ö

9

Antinglammatory; Gaercointestinal; Neuroprotective; Muscular;
Antipsoriatic, Antiathritic; Antirheumatic; Antithyroid; Hepatotropic;
Virucide; Antidiabetic; Antianemic; haematopoiesis; autoimmune disorder;
Virucide; Antidiabetic; Antianemic; haematopoiesis; autoimmune disorder;
Bv8; Endocrine Gland derived Vascular Endochelial Growth Factor; EG-VEGF;
hematological disorder; leukaemia; myeloproliferative disorder;
Imphodysplastic disorder; lymphopoliferative disorder;
Imphodysplastic disorder; lymphopoliferative disorder;
neutropenia; bacterial infection; lymphopaenia; autoimmune disorder;
multiple solerosis; myssthenia gravis; optic neuritis; lupus;
multiple solerosis; myssthenia gravis; optic neuritis; psoriasis;
rheumatoid arthritis; Graves Disease; autoimmune hepatitis;

type I diabetes; aplastic anaemia; human.

WO2004081229-A2 23-SEP-2004.

12-MAR-2003; 2003US-0454462P. 14-OCT-2003; 2003US-0511390P. 12-MAR-2004; 2004WO-US007622.

Ferrara N, Lecouter J; (GETH ) GENENTECH INC.

WPI; 2004-690608/67.

N-PSDB; ADS00459.

Cytostatic; Antimicrobial; Anti-HIV; Immunostimulant; Antibacterial;

Human Bv8 homologue variant #2, SEQ ID 4.

```
The invention relates to the used of a polypeptide for modulating gastrointestinal contractility, gastric emptying or intestinal transit in a mammal, treating gastroparesis, stimulating or intestinal transit in stimulating neutrophil infiltration, inducing or increasing appetite or weight gain in a mammal, increasing or decreasing sensitization to a thermal mechanical or painful stimulus in a mammal, or inducing thermal mechanical or painful stimulus in a mammal, or inducing or thermal mechanical or painful stimulus in a mammal, the polypeptides and polymucleotides are useful for treating intestinal motility disorders and improving gastrointestinal function with Zvenl and ZvenZ and improving gastrointestinal function with Zvenl and ZvenZ contractility, gastric emptying or intestinal transit in a mammal, celease, stimulating neurophil infiltration, inducing or increasing appetite or weight gain in a mammal, increasing or decreasing cappetite or weight gain in a mammal, increasing or decreasing cor inducing vasculogenesis or angiogenesis in cardiac stem cells. This
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              87
thermal stimulus; mechanical stimulus; painful stimulus; vasculogenesis; angiogenesis; cardiac stem cell; motility disorder; Zven1; Zven2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 AVITGACDKDSQCGGGGCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Use of Zvenl and Zven2 polypeptides for modulating gastrointestinal contractility, gastric emptying or intestinal transit in a mammal, stimulating gastrointestinal contractility, or for treating gastroparesis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 108;
                                                                                                                                                                                                                                                                                                                                                               West RR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%; Score 461; DB 8; 100.0%; Pred. No. 4.3e-41;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ·.
                                                                                                                                                                                                                                                                                                                                                               Jaspers SR, Garcia RM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         sequence corresponds to the human Zvenl protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Disclosure; SEQ ID NO 2; 143pp; English.
                                                                                                                                                                                             2002US-0416718P.
2002US-0416719P.
2002US-0433918P.
2002US-0434116P.
2003US-00416718.
                                                                                                                                                              07-OCT-2003; 2003WO-US031714.
                                                                                                                                                                                                                                                                                      03-OCT-2003; 2003US-00416719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity 100.
                                                                                                                                                                                                                                                                                                                            (ZYMO ) ZYMOGENETICS INC
                                                                                                                                                                                                                                                                                                                                                               Lewis KE,
Chan C;
                                                                                                                                                                                                                                                                                                                                                                                                                 2004-330174/30.
                                                                                                                                                                                                                                                                                                                                                                                                                                      N-PSDB; ADS86956
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 108 AA;
                                                                                         WO2004031367-A2.
                                                                                                                                                                                                                                                                                                                                                               Thompson PJ,
Holderman SD,
                                                         Homo sapiens.
                                                                                                                                                                                                                                    16-DEC-2002;
                                                                                                                                                                                                                                                   16-DEC-2002;
                                                                                                                                                                                               07-OCT-2002;
                                                                                                                                                                                                                  07-OCT-2002;
                                                                                                                                                                                                                                                                        03-OCT-2003;
                                                                                                                            15-APR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
     8XCCCCCCCCCCCCCCXXXIIIXXBBXXBBXXBBXXBXXBXXBXXBXX8XXX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
```

```
cc associated with abnormal haematopoiesis or an autoimmune disorder in a mammal. The method comprises administering antegonists for Bv8 or mammal. The method comprises administering antegonists for Bv8 or mammal. Bv8 and EG-VEGF are homologies of Vascular Endothelial Growth Factor (EG-VEGF) to Endocrine Gland derived Vascular Endothelial Growth Factor (EG-VEGF) to Endocrine Gland derived Vascular Endothelial Growth CC Endocrine Gland derived Vascular Endothelial Growth CC Factor (VEGF), an angiogenic factor known to have an important role in tumour growth and survival. (M1) is useful for treating abnormal CC haematopoiesis such as a hematological disorder e.g., leukaemia, character myelodysplastic disorder. The leukaemia is a contemploral ferative disorder, or lymphodysplastic disorder. The leukaemia is useful for treating immunodeficiency disorder, is acute myelodysplastic leukaemia. (M1) is useful for treating immunodeficiency disorder, secondary immunodeficiency disorder, or condition associated with an infectious disease (HIV infection). The immunodeficiency disorder is a condition associated with an infectious disease (HIV infection). The immunodeficiency disorder, or myelodysplastic disorder. (M1) is useful for treating neutropenia, which is associated with an infectious disease (Cor treating neutropenia, which is associated with an infectious disease. Condition, autoimmune disorder such as inflammatory bowel disease, Crohn's disease. Collitis, luquas, multiple sclerosis, myaëthenia gravis, optic neutitis, psoriasis, rheumatoid arthritis, Graves Disease, autoimmune hepatitis, type I diabetes or aplastic anaemia. The present sequence is a human Bv8 colling sequences for human Bv8 due to alternative splicing of an exon that encodes a canonical heparin binding domain. The present sequence concept anaemia of the encodes a canonical heparin binding domain. The present sequence of encodes a canonical heparin binding domain. The present sequence concept and proper produces of the method of the inventure of the 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Treating disorder associated with abnormal hematopoiesis or autoimmune disorder by administering antagonist of small protein obtained from Bombina variegata or endocrine gland derived vascular endothelial growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              present invention relates to a method (M1) for treating a disorder
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 52; SEQ ID NO 4; 161pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            coding sequence of ADS00459 does not.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              factor, to mammal.
```

Sequence 108 AA;

CLPGLACLRISFNRFICLAQK 108

88

RESULT 21

61 CLPGLACLRISFNRFICLAQK

ò g

81

ADS00460 standard; protein; 108 AA.

(first entry)

16-DEC-2004

ADS00460;

SXE

ö

Gaps

; 0

Indels

.. 0

Mismatches

..

81; Conservative

Matches

us-10-811-328-6.rag

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 tag and Gly linker. Zveni and Zven2 are also known as prokineticin2 and prokineticin1, respectively. Receptors for Zven1 and Zven2 have been identified as G-protein coupled receptors, GPRR31a and GPRR31b. The specification describes a method for reducing or treating inflammation in the intestine of a mammal, comprising administering a Zven1 or Zven2 antagonist to reduce the inflammation in the intestine. The antagonist is preferably a receptor that binds Zven1 or Zven2. The method is useful for diagnosing or treating inflammatory bowel disease, irritable bowel syndrome, ulcerative colitis, or Crohn's disease.
                                                                                                                                                                                                                                                                                                                                                           uuman, Zven1; Zven2; prokineticin2; prokineticin1;
3-protein coupled receptor; GPCR73a; GPCR73b; inflammation; intestine;
inflammatory bowel disease; irritable bowel syndrome; ulcerative colitis;
                                                                  9
                                                                                  AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLIRKVPFFGRRMHHTCP 87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The present sequence represents a human Zven1 polypeptide with a Glu-Glu
                                                                  AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                    Gaps
                                                                                                                                                                                                                                                                                                                                Amino acid sequence of a human Zven1 with Glu-Glu tag and Gly linker.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            mammals comprises administering to the mammal a Zven1 or Zven2 polypeptide or nucleic acid molecule, or a Zven1 or Zven2 antagonist
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Treating inflammatory bowel disease or irritable bowel syndrome in
                                      .
0
      Length 108;
                                   Indels
                                      ;
0
    Score 461; DB 8;
Pred. No. 4.3e-41;
0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Example 6; Page 144-145; 147pp; English.
                                                                                                                                             CLPGLACLRTSFNRFICLAQK 108
                                                                                                                                                                                                                                        Ź
                                                                                                                            61 CLPGLACLRTSFNRFICLAQK 81
                                                                                                                                                                                                                                     ADN41861 standard; protein; 116
      100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2002US-0416719P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2002US-0434116P.
2003US-0508603P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                07-OCT-2003; 2003WO-US031562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2002US-0416718P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2003US-0508614P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ä
                                                                                                                                                                                                                                                                                                 (first entry)
Query Match
Best Local Similarity 100."
Marches 81; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (ZYMO ) ZYMOGENETICS INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Thompson PJ, Sheppard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2004-340793/31.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N-PSDB; ADN41860.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 116 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO2004032850-A2
                                                                                                                                                                                                                                                                                                                                                                                                           Crohn's disease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             07-OCT-2002; 2
07-OCT-2002; 2
16-DEC-2002; 2
                                                                                                                                                                                                                                                                                                                                                                                                                                         Homo sapiens.
Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      03-OCT-2003;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          16-DEC-2002;
03-OCT-2003;
                                                                                                                                                                                                                                                                                                 15-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  22-APR-2004
                                                                                                                                                          88
                                                                                                                                                                                                                                                                     ADN41861;
                                                                                                                                                                                                                                                                                                                                                                human;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI;
                                                                                                                                                                                                                        ADN41861
                                                                                              g
                                                                                                                            8
                                                                                                                                                        임
                                                                                                                                                                                                                                        ઠે
```

Score 461; DB 8; Length 116; Pred. No. 4.6e-41;

100.0%;

Query Match Best Local Similarity

```
The invention relates to the used of a polypeptide for modulating gastrointestinal contractility, gastric emptying or intestinal transit in a mammal, treating gastroparesis, stimulating chemokine release, stimulating neutrophil infiltration, inducing or increasing appetite or stimulating neutrophil infiltration, inducing or increasing appetite or weight gain in a mammal, increasing or decreasing sensitization to a thermal, mechanical or painful stimulus in a mammal, or inducing thermal, mechanical or painful stimulus in a mammal, increasing asstrointestinal function with Zvenl and Zven2 and improving gastrointestinal function with Zvenl and Zven2 and improving gastrointestinal function with Zvenl and Zven2 contractility, gastric emptying or intestinal transit in a mammal, contractility, stimulating gastrointestinal contractility, stimulating chemokine release, stimulating neutrophil infiltration, inducing or increasing cappetite or weight gain in a mammal, increasing cappetite or weight gain in a mammal increasing and inducing vasculogenesis or anglogenesis in cardiac stem cells. This
9
                                           87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gastrointestinal; anabolic; gastrointestinal contractility; gastric emptying; intestinal transit; gastroparesis; chemokine release; entertrophil infiltration; appetite; weight gain; sensitization; thermal stimulus; mechanical stimulus; painful stimulus; vasculogenesis; angiogenesis; cardiac stem cell; motility disorder; Zven1; Zven2.
  1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                              28 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                     Zven1 protein expressed in baculovirus cell expression system.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Use of Zven1 and Zven2 polypeptides for modulating gastrointestinal contractility, gastric emptying or intestinal transit in a mammal, stimulating gastrointestinal contractility, or for treating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       West RR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Jaspers SR, Garcia RM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Example 9; SEQ ID NO 26; 143pp; English.
                                                                                                                                                                                                                                                                         ADS86981 standard; protein; 116 AA.
                                                                                                                          CLPGLACLRTSFNRFICLAQK 108
                                                                                                61 CLPGLACLRTSFNRFICLAQK 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2002US-0416718P.
2002US-0416719P.
2002US-0433918P.
2002US-0434116P.
2003US-00416718.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2003WO-US031714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2003US-00416719
                                                                                                                                                                                                                                                                                                                                                                    18-NOV-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (ZYMO ) ZYMOGENETICS INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Lewis KE,
Chan C;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2004-330174/30.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N-PSDB; ADS86980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO2004031367-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  gastroparesis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Thompson PJ,
Holderman SD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     07-OCT-2003;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   07-OCT-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          07-OCT-2002;
16-DEC-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           16-DEC-2002;
03-OCT-2003;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           03-OCT-2003;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     15-APR-2004
                                                                                                                                                                                                                                                                                                                       ADS86981;
                                                                                                                                              88
                                                                                                                                                                                                                                                                                                                                                                                                                       Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI;
                                                                                                                                                                                                                        RESULT 23
                                                                                                                                                                                                                                                  ADS86981
                                   qq
                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                       ઠ
                                                                                                ઠ
```

ö

; 0

Indels

ö

Pred. No. 1.1e-40;

Mismatches

ឧឧ

g ò 유

ठ

```
Conservative
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 80 AA;
                                                                                                                                                                                                                                                                                                                                                              WO2003066860-A1
                                                                                                                                                                                                                                                                                                                                       Homo sapiens.
                                                                                                                                                                                                                                15-JAN-2004
                                                                                                                                                                                                                                                                                                                                                                                        14-AUG-2003.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                80;
             80;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ohtaki T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                        ADD69044;
                                                                                      61
                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local
                                                                                                                                                                                                                                                                                                               human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
             Matches
                                                                                                                                                                   ADD6904
                                                                                                                                                      RESULT
                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                        ò
                                                            셤
                                                                                      ò
                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The present invention relates to a screening method for compounds for their ability to modify the binding of G-protein coupled receptor (GPCR) protein ZAQ and related proteins (human ZAQC, human ZAQT, rat ZAQ1 (rZAQ1), rZAQ2, human and mouse 1Es (misB) receptor, and mouse GPR73) to their ligands (the mature form of human, mouse or rat BVB protein). The receptor protein and ligand are contacted in the presence or absence of the test compound. The crompounds are useful in a drug composition for the treatment, and prevention of digestive and central nervous system (CNS) disorders, including bowel inflammation, diarrhoea, constipation, food absorption disorders, Alzheimer's disease, Parkinson's disease and schizophrenia. The present sequence represents a GPCR or related protein
                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                 antiinflammatory; antidiarrhoeic; neuroleptic; neuroprotective; receptor.
                                                                                                               1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP 60
                                                                                                                                          87
                                                                                                                                                                                                                                                                                                                                                                G-protein coupled receptor; GPCR; ZAQ; human; ZAQC; ZAQT; rat; ZAQ1; rZAQ1; rZAQ2; mouse; 15E receptor; m15E; GRR73; Bv8 protein; MIT1; digestive disorder; central nervous system disorder; (NS; diarrhoea; bowel inflammation; constipation; food absorption disorder; nootropic; Alzheimer's disease; Parkinson's disease; schizophrenia; laxative;
                                                                                                                                 28 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPWGKLGDSCHPLTRKVPFFGRRWHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Screening of compounds modifying the binding of G-protein coupled receptor protein ZAQ and related proteins to their ligands for use in treatment and diagnosis of digestive disorders.
                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Shintani
                                                                                          ö
  sequence corresponds to the human Zvenl protein expressed in baculovirus cell expression system.
                                                                 Length 116;
                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Terao Y,
                                                                                                                                                                                                                                                                                                                                      C-terminal Lys truncated human GPCR ligand Bv8 protein.
                                                                                          ö
                                                                             4.6e-41;
                                                               100.0%; Score 461; DB 8;
100.0%; Pred. No. 4.6e-41;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Watanabe T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Example 3; Page 166-167; 197pp; Japanese.
                                                                                                                                                                                     CLPGLACLRISFNRFICLAQK 108
                                                                                                                                                                      81
                                                                                                                                                                                                                                                               ABG94400 standard; protein; 80 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Takatsu Y,
                                                                                                                                                                      61 CLPGLACLRISFNRFICLAQK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        01-FEB-2002; 2002WO-JP000852.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                02-FEB-2001; 2001JP-00026820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (TAKE ) TAKEDA CHEM IND LTD
                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                          81; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 T, Masuda Y,
S;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2002-627537/67.
                                                                 Query Match
Best Local Similarity
                                           Sequence 116 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 80 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO200262944-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens.
                                                                                                                                                                                                                                                                                                                  27-NOV-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15-AUG-2002
                                                                                                                                                                                                                                                                                          ABG94400;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ohtaki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Hinuma
                                                                                                                                                                                                                                        RESULT 24
                                                                                                                                                                                                                                                    ABG94400
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The invention relates to a novel angiogenesis inhibitor comprising a compound that inhibits the activity of an amino acid sequence given in the specification. Angiogenesis-related proteins Bv8, ZAQ and ISE were utilised within the method of the invention. The molecules of the invention demonstrate cytostatic and antiinflammatory activities whilst the method may be useful for treatment and prevention of cancer, ovarian diseases, diabetic retinopathy and inflammatory disease. The current sequence is that of the human Bv8-related protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                 09
                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Angiogenesis inhibitors for treatment and prevention of cancer, ovarian diseases and inflammatory disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            angiogenesis inhibitor; cytostatic; antiinflammatory; cancer; ovarian disease; diabetic retinopathy; inflammatory; ZAQ; Bv8; I5E;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 80;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 456; DB 7; I Fred. No. 1.1e-40;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         98.9%; Scor.
100.0%; Pred. No. 1...
'... 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Example 3; SEQ ID NO 22; 308pp; Japanesd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Human Bv8-related protein - SEQ ID 22.
                                                                                                                                                                                                                                                                                                                                            ADD69044 standard; protein; 80 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            80
                                                                                                                                                                             80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          χ,
100.08; Pro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLPGLACLRTSFNRFICLAQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLPGLACLRISFNRFICLAQ
                                                                                                                                                                             CLPGLACLRTSFNRFICLAQ
                                                                                                                                                                                                        CLPGLACLRTSFNRFICLAQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   03-FEB-2003; 2003WO-JP001057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               04-FEB-2002; 2002JP-00027299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (TAKE ) TAKEDA CHEM IND LTD
                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Masuda Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WPI; 2003-646310/61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                N-PSDB; ADD69042
```

RESULT 26

Length 80;

DB 5;

Score 456;

98.98;

Query Match

Tue Nov

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            for the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The present invention relates to a screening method for compounds for their ability to modify the binding of G-protein coupled receptor (GPCR) protein ZAQC, human ZAQC, human ZAQT, rat ZAQI (rZAQI), rZAQ2, human and mouse 15E (m15E) receptor, and mouse GPR73) to their ligands (the mature form of human, mouse or rat BVB protein). The receptor protein and ligand are contacted in the presence or absence of the test compound. The compounds are useful in a drug composition for the treatment, and prevention of digestive and central nervous system (CNS) disorders, including bowel inflammation, diarrhoca, constibation, food absorption disorders, Alzheimer's disease, Parkinson's disease and schizophrenia. The present sequence represents a GPCR or related protein
                                                                                                                                                                                                                                  antiinflammatory; antidiarrhoeic; neuroleptic; neuroprotective; receptor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                             G-protein coupled receptor; GPCR; ZAQ; human; ZAQC; ZAQT; rat; ZAQ1; rZAQ1; rZAQ2; mouse; ISE receptor; mISE; GPR73; Bv8 protein; MIT1; digestive discorder; central nervous system disorder; CNS; disarrhoes; bowel inflammation; constipation; food absorption disorder; nootropic; Alzheimer's disease; Parkinson's disease; schizophrenia; laxative;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Screening of compounds modifying the binding of G-protein coupled receptor protein ZAQ and related proteins to their ligands for use in treatment and diagnosis of digestive disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGQVGDSCHPLTRKVPFWGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Watanabe T, Terao Y, Shintani Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 81;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 445; DB 5; Leg
Pred, No. 1.6e-39;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Example 5; Page 173-174; 197pp; Japanese.
                                                                                                             Rat GPCR ligand Bv8 protein sequence #2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ABB06963 standard; protein; 81 AA.
             ABG94402 standard; protein; 81 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Takatsu Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLPGLACLRTSFNRFICLARK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CLPGLACLRTSFNRFICLAOK
                                                                                                                                                                                                                                                                                                                                                                   01-FEB-2002; 2002WO-JP000852.
                                                                                                                                                                                                                                                                                                                                                                                                     02-FEB-2001; 2001JP-00026820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Match 96.5%;
Local Similarity 95.1%;
ee 77; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                      (TAKE ) TAKEDA CHEM IND LTD
                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Masuda Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 2002-627537/67.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       N-PSDB; ABS71120.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 81 AA;
                                                                                                                                                                                                                                                                                                   WO200262944-A2
                                                                                27-NOV-2002
                                                                                                                                                                                                                                                                                                                                  15-AUG-2002
                                                                                                                                                                                                                                                                   Rattus sp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       υ, i
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                ABG94402;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ABB06963;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ohtaki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hinuma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 27
ABG94402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ABB06963
                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SXXX
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                      The present invention describes human and rat brain-originated G protein-coupled receptor (GPCR) proteins. The GPCR sequences have antidiarrheic and laxative activities. The GPCR sequences can be used for developing drugs to treat diseases of the digestive organs, e.g. colitis, diarrhoea, constibation and malabsorption syndrome, including gene diagnosis and therapy. The present sequence represents a rat GPCR protein sequence, which is used in an example from the present invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                   Rat, rZAQ1, rZAQ2, G protein-coupled receptor; GPCR; antidiarrheic; laxative; drug development; digestive organ disease; colitis; diarrhoea; constipation; malabsorption syndrome; diagnosis; gene therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                Human and rat brain-originated G protein-coupled receptor proteins and encoded DNAs, for developing drugs to treat diseases of the digestive organs, e.g. colitis, diarrhea, constipation and mal-absorption syndrome
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              angiogenesis inhibitor; cytostatic; antiinflammatory; cancer; ovarian disease; diabetic retinopathy; inflammatory; ZAQ; Bv8; I5E; rat.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 AVITGACDKDSQCGGGMCCAVSIWKSIRICTPMGQVGDSCHPLTRKVPFWGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .
0
                         protein-coupled receptor protein sequence SEQ ID NO:71.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  81;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 445; DB 5; Le
Pred. No. 1.6e-39;
                                                                                                                                                                                                                                                                                                                                                                                                             Example 5; Page 128; 135pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bv8-related protein - SEQ ID 39.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ą
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 CLPGLACLRTSFNRFICLAQK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADD69061 standard; protein; 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  96.5%;
95.1%;
                                                                                                                                                                                               23-AUG-2001; 2001WO-JP007209
                                                                                                                                                                                                                         24-AUG-2000; 2000JP-00253862
                                                                                                                                                                                                                                                     (TAKE ) TAKEDA CHEM IND LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (first entry)
19-JUN-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                Shintani Y;
                                                                                                                                                                                                                                                                                                            WPI; 2002-269361/31.
N-PSDB; ABL50715.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO2003066860-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 81 AA;
                                                                                                                                        WO200216607-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15-JAN-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              14-AUG-2003.
                                                                                                                                                                    28-FEB-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Rattus sp.
                                                                                                              Rattus sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADD69061;
                                                                                                                                                                                                                                                                                Terao Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                          Rat G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADD69061
셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
```

```
WPI; 2003-854028/79.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADN43260;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADN43260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mouse; murine; prokineticin 2; PK2; circadian rhythm; modulation; drug screening; circadian rhythm disorder; non-24-hour sleep-wake syndrome; rapid time-zone change syndrome; jetlag; work-shift syndrome; delayed phase sleep syndrome; advanced sleep phase syndrome; irregular sleep-wake pattern syndrome; decreased amplitude syndrome; seasonal affective disorder; ultradian rhythm; daydreaming; urination; hunger; infardian rhythm; female sexual receptivity; CNS; central nervous syndrome;
                                                                                                                                                             compound that inhibits the activity of an amino acid sequence given in the specification. Anglidenesis-related proteins BN9, ZAQ and ISE were utilised within the method of the invention. The molecules of the invention demonstrate cytostatic and antiinflammatory activities whilst the method may be useful for treatment and prevention of cancer, ovarian diseases, diabetic retinopathy and inflammatory disease. The current sequence is that of the rat BN8-related protein of the invention.
                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                            9
                                                                                                             Angiogenesis inhibitors for treatment and prevention of cancer, ovarian
                                                                                                                                                                                                                                                                                                                                    1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                    ..
                                                                                                                                                                                                                                                                               Length 81;
                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                         96.5%; Score 445; DB 7; Le
95.1%; Pred. No. 1.6e-39;
Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mouse major prokineticin 2 (PK2), SEQ ID NO:7.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PK2 receptor antagonist; PK2 receptor agonist
                                                                                                                                                                                                                                                                                        Pred. No. 1.6e
4; Mismatches
                                                                                                                                            Claim 1; SEQ ID NO 39; 308pp; Japanese.
                                                                                                                        inflammatory disease.
                                                                                                                                                                                                                                                                                                                                                                 61 CLPGLACLRISFNRFICLAOK 81
                                                                                                                                                                                                                                                                                                                                                                                     CLPGLACLRISFNRFICLARK 81
                                                                                                                                                                                                                                                                                                                                                                                                                                         ADO05358 standard; protein; 81
                                                             Takatsu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 15-APR-2002; 2002US-0372836P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LS-APR-2003; 2003WO-US011538
 03-FEB-2003; 2003WO-JP001057
                     04-FEB-2002; 2002JP-00027299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                          Local Similarity 95.1 es 77; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (REGC ) UNIV CALIFORNIA.
                                                           Ohtaki T, Masuda Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bullock CM;
                                        (TAKE ) TAKEDA CHEM
                                                                               WPI: 2003-646310/61
                                                                                           N-PSDB; ADD69062
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO2003088904-A2
                                                                                                                                                                                                                                                              Sequence 81 AA;
                                                                                                                        diseases and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mus musculus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        30-OCT-2003.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                              AD005358;
                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Zhou O,
                                                                                                                                                                                                                                                                                            Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 29
                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                           ઠે
```

```
The invention relates to a method of screening for a compound for its ability to modulate circadian rhythm. The method involved determining the ability of a prokineticia 2 (PKZ) receptor agonist or antagonist to compound the solution of modulate one or more indicia or circadian rhythm function. The compound compound is identified as being a PKZ receptor agonist or antagonist by determining its effect on a predetermined signal such as calcium mobilisation produced by the interaction of PKZ and a receptor (e.g., ADO05355). The invention is based on the findings that PKZ expression in that PKZ receptor activation modulates direadian rhythm in rats. The invention also relates to a method of modulating the circadian rhythm of an animal by administration of a PKZ receptor antagonist; a composition comprising a detectably labelled PKZ and an isolated mouse CC an animal by administration of a PKZ receptor antagonist; or agonist; a composition comprising a detectably labelled PKZ and an isolated mouse CC a PKZ gene promoter (ADO05365-ADO05369) operably linked to a heterologous cricadian rhythm and for the light regulated expression of a mucleic acid methods of the invention are useful for identifying compounds for modulating circadian rhythm; such modulators include SC modulating circadian rhythm and PKZ promoter ADO05365. The promoter ADO05365 and manimal PKZ promoter ADO05365. The promoter adonists which are able to the Mana PKZ promoter ADO05365. The promoter adonists which are which are made and pKZ promoter ADO05365. The promoter adonists which are able to the MADO05365 and an additional promoter adonistion an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           antagonists which promote sleep, and PKZ receptor agonists which promote alertness. The circadian rhythm modulators may be used in the treatment of circadian rhythm disorders such as non-24-hour sleep-wake syndrome, rapid time-zone change syndrome (jetlag), work-shift syndrome, delayed phase sleep syndrome, advanced sleep phase syndrome, irregular sleep-wake seasonal affective disorder. They may also be used for modulating biological rhythms with a periodicity of less than 24 hours (ultradian rhythm) such as daydreaming, unination or hunger, or those with a periodicity of more than 24 hours (infardian rhythm) such as sexual receptivity (heat) in female animals. The present sequence represents the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              neurogenesis, prokineticin receptor; PKR; neural stem; progenitor cell; neural regeneration; Alzheimer's disease; Parkinson's disease; neurodegenerative disease; prokineticin 2; PK2.
Screening for compounds for modulating circadian rhythm, for treating seasonal disorders, comprises determining ability of prokineticin-2 receptor antagonist or agonist to modulate one or more circadian rhythm function indicia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 AVITGACDKDSQCGGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 445; DB 7; Length 81; Pred. No. 1.6e-39; 4; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Amino acid sequence of murine prokineticin 2 (PK2).
                                                                                                                                                                                                                                                                                                        7; 164pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ę
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADN43260 standard; protein; 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CLPGLACLRTSFNRFICLAQK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           / Match 96.5%;
Local Similarity 95.1%;
hes 77; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (first entry)
                                                                                                                                                                                                                                                                                                                   Disclosure; SEQ ID NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            major murine PK2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 81 AA;
```

ö

```
81
                                                                                                                                                                                                                                                                                                                                                                                                                             81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Takatsu Y,
                                                                                                                                           Claim 26; Fig 6B; 103pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ABG94408 standard; protein; 107
                                                                                                                                                                                                                                                                                                                                                                                                                    CLPGLACLRTSFNRFICLAQK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mouse GPCR ligand Bv8 protein.
                                                                                                                                                                                                                                                                                                                   96.5%;
95.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-FEB-2002; 2002WO-JP000852.
04-OCT-2002; 2002US-0416202P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         02-FEB-2001; 2001JP-00026820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (TAKE ) TAKEDA CHEM IND LID.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                         77; Conservative
                     (REGC ) UNIV CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Masuda Y,
                                                              WPI; 2004-340794/31.
                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity
                                           Cheng MY;
                                                                                                                                                                                                                                                                                                Sequence 81 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WO200262944-A2.
                                                                                                                     neurogenesis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              27-NOV-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15-AUG-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ohtaki T,
Hinuma S;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ABG94408;
                                                                                                                                                                                                                                                                                                                                                                                    Н
                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                           Zhou Q,
                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ABG94408
ò
                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                           The specification describes a method for identifying a compound that modulates neurogenesis. The method comprises providing a compound that modulates prokineticin receptor (PKR) signaling, contacting a neural stem cor progenitor cell with the compound, and determining the ability of the compound to modulate neurogenesis. The method is useful for modulating neurogenesis or for identifying compounds that modulate neurogenesis. These are used for both ex vivo or in vivo therapeutic applications where neural regeneration is desirable, such as in Alzheimer's disease, parkineno's disease or other debilitating neurodespenerative diseases. The used in the method of the invention to modulate neurogenesis.
                                                                                                                                                                                      Identifying a compound that modulates neurogenesis comprises contacting a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                        neural stem or progenitor cell with a compound that modulates prokineticin receptor signaling and determining its ability to modulate neurogenesis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        neurogenesis; prokineticin receptor; PKR; neural stem; progenitor cell; neural regeneration; Alzheimer's disease; Parkinson's disease; neurodegenerative disease; prokineticin 2; PK2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGQVGDSCHPLTRKVPFWGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                           ;
                                                                                                                                                                                                                                                                                                                                                                                                                     Length 81;
                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Amino acid sequence of rat prokineticin 2 (PK2)
                                                                                                                                                                                                                                                                                                                                                                                                                    96.5%; Score 445; DB 8; 95.1%; Pred. No. 1.6e-39;
                                                                                                                                                                                                                                                                                                                                                                                                                                          4; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 CLPGLACLRTSFNRFICLAQK 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADN43262 standard; protein; 81 AA
                                                                                                                                                                                                                                          Claim 26; Fig 6B; 103pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CLPGLACLRTSFNRFICLARK
                                                                          03-OCT-2003; 2003WO-US031626
                                                                                               04-OCT-2002; 2002US-0416202P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   03-OCT-2003; 2003WO-US031626
                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity 95.1%;
hes 77; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
                                                                                                                    (REGC ) UNIV CALIFORNIA
                                                                                                                                                                WPI; 2004-340794/31
                                                                                                                                           Cheng MY;
                              WO2004032851-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WO2004032851-A2.
                                                                                                                                                                                                                                                                                                                                                                                                Sequence 81 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15-JUL-2004
                                                     22-APR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               22-APR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Rattus sp.
                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                           Zhou Q,
           Mus sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADN43262
ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            d
```

```
The specification describes a method for identifying a compound that modulates neurogenesis. The method comprises providing a compound that modulates prokineticin receptor (PKR) signaling, contacting a neural stem or progenitor cell with the compound, and determining the ability of the compound to modulate neurogenesis. The method is useful for modulating neurogenesis or for identifying compounds that modulate neurogenesis. These are used for both ex vivo or in vivo therapeutic applications where neural regeneration is desirable, such as in Alzheimer's disease, parkinson's disease or other debilitating neurodegenerative disease. The present sequence represents rat prokineticin 2 (PKZ), which may be used in the method of the invention to modulate neurogenesis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  antiinflammatory; antidiarrhoeic; neuroleptic; neuroprotective; receptor.
Identifying a compound that modulates neurogenesis comprises contacting neural stem or progenitor cell with a compound that modulates prokineticin receptor signaling and determining its ability to modulate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  G-protein coupled receptor; GPCR; ZAQ; human; ZAQC; ZAQT; rat; ZAQ1; rZAQ1; rZAQ2; mouse; I5E receptor; mI5E; GPR73; Bv8 protein; MIT1; disperive disorder; central nervous system disorder; CNS; disarrhoea; bowel inflammation; constipation; food absorption disorder; nootropic; Alzheimer's disease; Parkinson's disease; schizophrenia; laxative;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Shintani Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 81;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Terao Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 445; DB 8;
Pred. No. 1.6e-39;
4; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Watanabe T,
```

ö

```
their ability to modify the binding of G-protein coupled receptor (GPCR) protein ZAQ and related proteins (human ZAQC, human ZAQT, rat ZAQ1 (rZAQ1), rZAQ2, human and mouse ISE (mISE) receptor, and mouse GPR73) to their ligands the mature form of human, mouse or rat BVB protein). The receptor protein and ligand are contacted in the presence or absence of the test compound; The compounds are useful in a drug composition for the treatment, and prevention of digestive and central nervous system (CNS) disorders, including bowel inflammation, diarrhoea, constipation, food
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     antiinflammatory; antidiarrhoeic; neuroleptic; neuroprotective; receptor
                                                                                                                                                                                                                                                                                                                                                            schizophrenia. The present sequence represents a GPCR or related protein
                                                                                                                                                                          The present invention relates to a screening method for compounds for their ability to modify the binding of G-protein coupled receptor (GPCR)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       G-protein coupled receptor; GPCR; ZAQ; human; ZAQC; ZAQT; rat; ZAQ1; rZAQ1; rZAQ2; mouse; ISE receptor; mISE; GPR73; Bv8 protein; MIT1; digestive disorder; central nervous system disorder; CNS; diarrhoea; bowel inflammation; constipation; food absorption disorder; nootropic;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             27 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPWGQVGDSCHPLTRKVPFWGRRWHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                             Screening of compounds modifying the binding of G-protein coupled receptor protein ZAQ and related proteins to their ligands for use in treatment and diagnosis of digestive disorders.
                                                                                                                                                                                                                                                                                                                                         absorption disorders, Alzheimer's disease, Parkinson's disease and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Alzheimer's disease; Parkinson's disease; schizophrenia; laxative;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Screening of compounds modifying the binding of G-protein coupled
                                                                                                                                                                                                                                                                                                                                                                                                                               Score 445; DB 5;
Pred. No. 2.1e-39;
4; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ohtaki T, Masuda Y, Takatsu Y, Watanabe T,
Hinuma S;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Rat GPCR ligand Bv8 protein sequence #1.
                                                                                                                                        Disclosure; Page 189; 197pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ABG94401 standard; protein; 107 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CLPGLACLRISFNRFICLARK 107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CLPGLACLRTSFNRFICLAQK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-FEB-2002; 2002WO-JP000852
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           02-FEB-2001; 2001JP-00026820
                                                                                                                                                                                                                                                                                                                                                                                                                                     96.5%;
95.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (TAKE ) TAKEDA CHEM IND LID.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 95.1.
Local 77; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WPI; 2002-627537/67.
             WPI; 2002-627537/67.
N-PSDB; ABS71130.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         N-PSDB; ABS71119.
                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 107 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WO200262944-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        27-NOV-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  15-AUG-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ABG94401;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
```

Shintani Y;

Terao Y,

```
ö
                                                                                 The present invention relates to a screening method for compounds for their ability to modify the binding of G-protein coupled receptor (GPCR) protein ZAQ and related proteins (human ZAQC, human ZAQT, rat ZAQ1 (YZAQ1), rZAQ2, human and mouse ISE (MISE) receptor, and mouse GPR73) to their ligands (the mature form of human, mouse or rat BV8 protein). The receptor protein and ligand are contacted in the presence or absence of the test compound. The compounds are useful in a drug composition for the treatment, and prevention of digestive and central nervous system (CNS) disorders, including bowel inflammation, diarriboea, constipation, food absorption disorders, Alzheimer's disease, Parkinson's disease and schizophrenia. The present sequence represents a GPCR or related protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            The present invention describes human and rat brain-originated G protein-coupled receptor (GPCR) proteins. The GPCR sequences have antidiarrheic and laxative activities. The GPCR sequences can be used for developing drugs to treat diseases of the digestive organs, e.g. colitis, diarrhoea,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human and rat brain-originated G proteif-coupled receptor proteins and encoded DNAs, for developing drugs to treat diseases of the digestive organs, e.g. colitis, diarrhea, constipation and mal-absorption syndrome
                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                    98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Rat; rZAQ1; rZAQ2; G protein-coupled receptor; GPCR; antidiarrheic; laxative; drug development; digestive organ disease; colitis; diarrhoea; constipation; malabsorption syndrome; diagnosis; gene therapy.
                                                                                                                                                                                                                                                                                                                                                                                                                                       1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
   류
                                                                                                                                                                                                                                                                                                                                                                                 Gaps
receptor protein ZAQ and related proteins to their ligands for use treatment and diagnosis of digestive disorders.
                                                                                                                                                                                                                                                                                                                                                                                 .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rat G protein-coupled receptor protein sequence SEQ ID NO:69.
                                                                                                                                                                                                                                                                                                                                          Score 445; DB 5; Length 107; Pred. No. 2.1e-39; 4; Mismatches 0; Indels
                                                         Page 172-173; 197pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Example 5; Page 127; 135pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ABB06962 standard; protein; 107 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 CLPGLACLRTSFNRFICLAQK 81
                                                                                                                                                                                                                                                                                                                                            96.5%;
95.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          23-AUG-2001; 2001WO-JP007209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        24-AUG-2000; 2000JP-00253862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (TAKE ) TAKEDA CHEM IND LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity 95.1
Matches 77; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Terao Y, Shintani Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2002-269361/31.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            N-PSDB; ABL50714.
                                                                                                                                                                                                                                                                                                              Sequence 107 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO200216607-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 19-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 28-FEB-2002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Rattus sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ABB06962;
                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                         Claim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ABB06962
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
```

ö

Gaps

ő

0; Indels

Length 107

9

86

```
ò
                                                                                                                                                                                                                                                                                                                                                                         Mouse; cell proliferation; cancer; lipoid congenital adrenal hyperplasia; 848; androgen-dependent tumour; precocious puberty; sexual maturation; adrenal-hypoplasia congenita; infertility; hypogonadotropic hypogonadism; McCune-Albright syndrome; cytostatic; angiogenic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Inducing proliferation of endothelial cells or enhancing cell survival, by contacting the cells with Bv8 or introducing nucleic acid encoding Bv8 into cells to induce proliferation or to enhance survival of the cells.
                                                                                                                               09
                                                                                                                                                    98
constipation and malabsorption syndrome, including gene diagnosis and therapy. The present sequence represents a rat GPCR protein sequence, which is used in an example from the present invention
                                                                                                                                           27 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPWGQVGDSCHPLTRKVPFWGRRMHHTCP
                                                                                                                              1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                      Gaps
                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   'note= "Mouse mature Bv8 homologue protein"
                                                                           Length 107;
                                                                                                   Indels
                                                                          Score 445; DB 5; L. Pred. No. 2.1e-39; 4; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ...46
te= "Myristoylation site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             'note= "Myristoylation site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Myristoylation site"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note= "Amidation site"

    .20
    label= Signal-peptide

                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                       AAE36790 standard; protein; 107 AA
                                                                                                                                                                                                       CLPGLACLRISFNRFICLARK 107
                                                                                                                                                                               61 CLPGLACLRISFNRFICLAQK 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 9; Fig 6; 87pp; English
                                                                           96.5%;
95.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   27-AUG-2002; 2002WO-US027571.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            29-AUG-2001; 2001US-0316184P.
                                                                                                                                                                                                                                                                                                                                                 Mouse Bv8 homologue protein.
                                                                                                                                                                                                                                                                                                                         (first entry)
                                                                                      Local Similarity 95.1
les 77; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ferrara N, Le Couter J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      'note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             'note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (GETH ) GENENTECH INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 2003-290180/28.
N-PSDB; AAD55708.
                                                   Sequence 107 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WO2003020892-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Modified-site
                                                                                                                                                                                                                                                                                                                                                                                                                                            Mus musculus.
                                                                                                                                                                                                                                                                                                                        07-AUG-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        13-MAR-2003
                                                                           Query Match
                                                                                                                                                                                                                                                                                                AAE36790;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Peptide
                                                                                                                                                                                                                                                           AAE36790
  SSSSS
                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                    셤
                                                                                                                                                                               ð
                                                                                                                                                                                                      셤
```

The present invention relates to a novel method of inducing proliferation of endothelial cells or enhancing cell survival, involving contacting the

```
cells with Bv8 or introducing a nucleic acid encoding Bv8 into the cells to induce proliferation or to enhance survival of the cells. The method is useful for inducing proliferation of endothelial cells and to enhance cell survival, where the cells are vascular endothelial cells, especially steroidogenic endothelial cells. It is useful for inhibiting endothelial cell proliferation, for treating cancer (e.g., hormone-dependent cancer or cancer of the reproductive organs, especially testicular cancer) in mammals preferably human. The method of the invention is also useful for treating a condition associated with hormone producing tissue in mammals, where the condition is associated with hormone producing tissue which is selected from lipoid congenital adrenal hyperplasia, infertility, sexual maturation, androgen-dependent tumnurs, precocious puberty, adrenal hypoplasia congenita, McCune-Albright syndrome and hypogonadorropic hypogonadism. The present sequence is mouse Bv8 homologue protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention relates to a novel angiogenesis inhibitor comprising a compound that inhibits the activity of an amino acid sequence given in the specification. Angiogenesis-related proteins Bv8, ZAQ and ISE were utilised within the method of the invention. The molecules of the invention demonstrate cytostatic and antiinflammatory activities whilst the method may be useful for treatment and prevention of cancer, ovarian diseases, diabetic retinopathy and inflammatory disease. The current sequence is that of the rat Bv8-related protein of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             angiogenesis inhibitor; cytostatic; antiinflammatory; cancer; ovarian disease; diabetic retinopathy; inflammatory; ZAQ; Bv8; I5E; rat.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Angiogenesis inhibitors for treatment and prevention of cancer, ovarian diseases and inflammatory disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                         .;
0
                                                                                                                                                                                                                                                                                                                                 Length 107;
                                                                                                                                                                                                                                                                                                                                   Score 445; DB 6;
Pred. No. 2.1e-39;
                                                                                                                                                                                                                                                                                                                                                                         4; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Example 3; SEQ ID NO 37; 308pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bv8-related protein - SEQ ID 37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADD69059 standard; protein; 107 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Takatsu Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLPGLACLRTSFNRFICLARK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLPGLACLRTSFNRFICLAQK
                                                                                                                                                                                                                                                                                                                                   96.5%;
95.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    03-FEB-2003; 2003WO-JP001057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            04-FEB-2002; 2002JP-00027299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (TAKE ) TAKEDA CHEM IND LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      15-JAN-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                         77; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Masuda Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2003-646310/61.
                                                                                                                                                                                                                                                                                                                                                     Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N-PSDB; ADD69060.
                                                                                                                                                                                                                                                                                             Sequence 107 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO2003066860-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                14-AUG-2003.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ohtaki T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Rattus sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           83
                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                         datches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADD69059
       $$$$$$$$$$$$$$$$$$$$$$$
                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
```

X S

셤

ઠે

ò

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    The invention relates to a novel angiogenesis inhibitor comprising a compound that inhibits the activity of an amino acid sequence given in the specification. Angiogenesis-related proteins Bv8, ZAQ and ISE were utilised within the method of the invention. The molecules of the invention demonstrate cytostatic and antiinflammatory activities whilst the method may be useful for treatment and prevention of cancer, ovarian diseases, diabetic retinopathy and inflammatory disease. The current sequence is that of the murine Bv8-related protein of the invention.
                                                                                                                                      09
                                                                                                                                                              Angiogenesis inhibitors for treatment and prevention of cancer, ovarian diseases and inflammatory disease.
                                                                                                                                    1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 angiogenesis inhibitor; cytostatic; antiinflammatory; cancer; ovarian disease; diabetic retinopathy; inflammatory; 2AQ; Bv8; I5E;
                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 445; DB 7; Length 107;
Pred. No. 2.1e-39;
1; Mismatches 0; Indels
                                      Length 107;
                                                                                     Indels
                                    Score 445; DB 7; L
Pred. No. 2.1e-39;
4; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Disclosure; SEQ ID NO 55; 308pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Murine Bv8-related protein - SEQ ID 55.
                                                                                                                                                                                                                                                                                                                                                                                                                    ADD69077 standard; protein; 107 AA.
                                                                                                                                                                                                                                                                87 CLPGLACLRTSFNRFICLARK 107
                                                                                                                                                                                                                                         61 CLPGLACLRISFNRFICLAOK 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Takatsu Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         96.5%;
95.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         03-FEB-2003; 2003WO-JP001057
                                      96.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     04-FEB-2002; 2002JP-00027299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (TAKE ) TAKEDA CHEM IND LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   15-JAN-2004 (first entry)
                                                                Best Local Similarity 95.1
Matches 77; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ohtaki T, Masuda Y,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 2003-646310/61.
N-PSDB; ADD69078.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 107 AA;
Sequence 107 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO2003066860-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       murine; mouse.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      14-AUG-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ADD69077;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mus sp.
                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                     RESULT 37
```

```
The present invention relates to a method (M1) for treating a disorder associated with abnormal haematopolesis or an autoimmune disorder in a mammal. The method comprises administering antagonists for Bv8 or Endocrine Gland derived Vascular Endothelial Growth Factor (EG-VEGF) to the mammal. Bv8 and EG-VEGF are homologues of Vascular Endothelial Growth Factor (FG-VEGF), an angiogenic factor known to have an important role in Factor (VEGF), an angiogenic factor known to have an important role in tumour growth and survival. (M1) is useful for treating abnormal companies such as a hematological disorder e.g., leukaemia, cmyeloproliferative disorder, myelogyplatic disorder. The leukaemia complete myelofal leukaemia, cmyelogenous leukaemia, or acute companies of a south as primary immunodeficiency disorder. Ilymphodypplastic leukaemia, (M1) is useful for treating immunodeficiency disorder. Completed sprimary immunodeficiency disorder, prodition associated with an infections disease (HIV infection). The immunodeficiency disorder is a condition associated with an infections disease (Compelorative disorder is a condition associated with an infectious disease (Compelorative disorder is a condition associated with an infectious disease (Compelorative disorder is a sociated with an infectious disease (Contreatial infection). (M1) is useful for treating lymphopaenia or autoimmune disorder such as inflammatory bowel disease, Crohn's disease,
                                                                                                                                                                                                                                                                                                                                               Antipooriatic, Antiarthritic, Antirheumatic, Antithyroid; Hepatotropic; Antiolabelic, Antianemic, haematopolesis; autoimune disorder; Bv8; Endocrine Gland derived Vascular Endothelial Growth Factor; EG-VEGF; hematological disorder; leukaemia; myeloproliferative disorder; myelogyplastic disorder; lymphopyoliferative disorder; lymphopyoliferative disorder; immunodeficiency disorder; infection; neutropenia; bacterial infection; lymphopaenia; autoimmune disorder; inflammatory bowel disease; Crohn's disease; colitis; lupus; inflammatory bowel disease; Crohn's disease; colitis; lupus; rheumatoid arthritis; Graves Disease; autoimmune hepatitis; psoriasis; type I diabetes; aplastic anaemia; murine.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Treating disorder associated with abnormal hematopoiesis or autoimmune disorder by administering antagonist of small protein obtained from Bombina variegata or endocrine gland derived vascular endothelial growth
                                                                                                                                                                                                                                                                                                                           Antinflammatory, Gastrointestinal, Neuroprotective, Muscular;
Antipsoriatic, Antiarthritic, Antirheumatic; Antithyroid, Hepatotropic;
                                                                                                                                                                                                                                                                                           Cytostatic; Antimicrobial; Anti-HIV; Immunostimulant; Antibacterial;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 53; SEQ ID NO 6; 161pp; English
                                                                                                                 ADS00462 standard; protein; 107 AA
87 CLPGLACLRTSFNRFICLARK 107
                                                                                                                                                                                                                                                           Murine Bv8 homologue, SEQ ID 6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              12-MAR-2003; 2003US-0454462P.
14-OCT-2003; 2003US-0511390P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  12-MAR-2004; 2004WO-US007622.
                                                                                                                                                                                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ferrara N, Lecouter J;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (GETH ) GENENTECH INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2004-690608/67.
N-PSDB; ADS00461.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     factor, to mammal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WO2004081229-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mus musculus.
                                                                                                                                                                                                            16-DEC-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     23-SEP-2004.
                                                                                                                                                                ADS00462;
```

9 98

Gaps

ö

1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP 27 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTFWGQVGDSCHPLTRKVPFWGRRMHHTCP

4 ;

Local Similarry, nes 77; Conservative

Matches

g 8

ઠ

CLPGLACLRISFNRFICLAQK 81

88888888

8 6 8 6

```
Matches
                                                                                                                      g
                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                         셤
                                                                    8
                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The specification describes a method for identifying a compound that modulates neurogenesis. The method comprises providing a compound that modulates prokineticin receptor (PKR) signaling, contacting a neural stem or progenitor cell with the compound, and determining the ability of the compound to modulate neurogenesis. The method is useful for modulating neurogenesis or for identifying compounds that modulate neurogenesis. These are used for both ex vivo or in vivo therapeutic applications where
colitis, lupus, multiple sclerosis, myasthenia gravis, optic neuritis, postiasis, rheumatoid arthritis, Graves Disease, autoimmune hepatitis, type I diabetes or aplastic anaemia. The present sequence is a murine Bv8 sequence used to illustrate the method of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Identifying a compound that modulates neurogenesis comprises contacting a neural stem or progenitor cell with a compound that modulates prokineticin receptor signaling and determining its ability to modulate neurogenesis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            neural regeneration is desirable, such as in Alzheimer's disease, barkinson's disease or other debilitating neurodegenerative diseases. The present sequence represents human prokineticin 2 (PK2) isoform 1, which may be used in the method of the invention to modulate neurogenesis.
                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         neurogenesis; prokineticin receptor; PKR; neural stem; progenitor cell; neural regeneration; Alzheimer's disease; Parkinson's disease; neurodegenerative disease; prokineticin 2; PK2.
                                                                                                                                                                                                                                                                                                                                                 1 AVITGACDKDSQCGCGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                     27 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPWGQVGDSCHPLTRKVPPWGRRMHHTCP
                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                         ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Amino acid sequence of human prokineticin 2 (PK2) isoform 1.
                                                                                                                                                                                                                        Length 107;
                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                           Score 445; DB 8; Lour Pred. No. 2.1e-39; 4; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADN43257 standard; protein; 102 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLPGLACLRISFNRFICLARK 107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CLPGLACLRTSFNRFICLAQK 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 26, Fig 6B; 103pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               04-OCT-2002; 2002US-0416202P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                03-OCT-2003; 2003WO-US031626.
                                                                                                                                                                                                                           96.5%;
95.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                     Local Similarity 95.1
1es 77; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (REGC ) UNIV CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2004-340794/31.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Zhou Q, Cheng MY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 102 AA;
                                                                                                                                                             Sequence 107 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WO2004032851-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   15-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  22-APR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADN43257;
                                                                                                                                                                                                                           Query Match
```

Length 102;

Score 440.5; DB 8; Pred. No. 6e-39;

95.6%;

Query Match Best Local Similarity

```
The invention relates to novel prokineticin-like polypeptides and polymucleotides. The polymucleotide and polypeptide are useful in diagnostics, forensics, gene mapping, drug screening, identification of diagnostics, forensics, genetic disorders or traits, to assess biodiversity, and to produce many other types of data and product dependent on DNA and amino acid sequences. The polymucleotide and polymptide may also be used for treating diseases due to impaired gastrointestinal motility (e.g. chronic constipation, diabetic gastrointestinal motility (e.g. chronic constipation, diabetic gastroparesis, irritable bowel syndrome or postoperational ileus), for requilating angiogenesis and neovascularization, as well as growth and cevelopment in heart and oneovascularization, as well as growth and disease or Parkinson's disease, for treating sperm disorders including azoospermia, meurodegenerative diseases (e.g. Alzheimer's disease or Parkinson's disease), autoimmune disorders (e.g. rheumatoid arthritis, diabetes, allergy or asthma), wounds, cancer or infections. This sequence corresponds to a protein which has similarity to the novel proveneration.
  ..
H
                                                                                                                                                                                                                                                                                                                                                                                                                                                   laxative; antiinflammatory; neuroprotective; nootropic; antiparkinsonian; antirheumatic; antiarthritic; antidiabetic; antiallergic; antiasthmatic; vuncate; gene therapy; ortoctatic; antibacterial; vitucide; gene therapy; prokineticin; diagnostics; forensics; gene mapping; drug screening; biodiversity; impaired gastrointestinal motility; chronic constipation; diabetic gastroparesis; irritable bowel syndrome; postoperational ileus; angiogenesis; neovascularization; heart; sperm disorder; azoospermia; neurodegenerative disease; Albieimer's disease; Parkinson's disease; autoimmune disorder; rheumatoid arthritis; diabetes; allergy; asthma;
                                          47
                                                                                 1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKNNFGNGRQERRKR 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New prokineticin-like polynucleotide and polypeptide for diagnosing, preventing or treating impaired gastrointestinal motility, cancer or neurodegenerative or autoimmune disorders, and for gene mapping or drug
    Gaps
  21;
  Indels
                                             1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRK
                                                                                                                                                       KRSKRKKEVPFFGRRMHTCPCLPGLACLRTSFNRFICLAQK 102
                                                                                                                              ------VPFFGRRMHHTCPCLPGLACLRTSFNRFICLAQK 81
  .,
Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure; SEQ ID NO 14; 132pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Drmanac RT;
  .
0
                                                                                                                                                                                                                                                                                   ADJ71808 standard; protein; 124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   04-NOV-2002; 2002WO-US035465.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              02-NOV-2001; 2001US-0343902P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Liu C,
                                                                                                                                                                                                                                                                                                                                                                      06-MAY-2004 (first entry)
  81; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ghosh MJ, Tang TY,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2003-441552/41.
                                                                                                                                                                                                                                                                                                                                                                                                                    Human Bv8 protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (HYSE-) HYSEQ INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 124 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WO2003040326-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            wounds; cancer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15-MAY-2003.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           screening
                                                                                                                                48
                                                                                                                                                                                                                                                                                                                              ADJ71808;
                                                                                                                                                                                                                                                            ADJ71808
ID ADJ7
                                                                                                                                                                                                                                        RESULT
```

1;

```
Query Match 95.6%; Score 440.5; DB 7; Length 124; Best Local Similarity 79.4%; Pred. No. 7.2e-39; Antches 81; Conservative 0; Mismatches 0; Indels 21; Gaps
                                                                         g
                                                                             à
                                                                                         q
                                         ઠે
```

Search completed: November 7, 2005, 20:56:10 Job time : 116.467 secs

THIS PAGE BLANK (USPTO)

```
Sequence 2, Appli
Sequence 2, Appli
Sequence 2, Appli
Sequence 5, Appli
Sequence 5, Appli
Sequence 55, Appli
Sequence 1550, Ap
Sequence 14, Appl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     14, Appl
10, Appl
1086, Ap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            13, Appl
12, Appl
6872, Ap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Appl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                  (without alignments)
207.773 Million cell updates/sec
                                                                                                  November 7, 2005, 20:49:21 ; Search time 29.1018 Seconds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                    1 AVITGACDKDSQCGGGMCCA.....LPGLACLRTSFNRFICLAQK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Issued_Patents AA:*
1: /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*
2: /cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
3: /cgn2_6/ptodata/1/iaa/6A_COMB.pep:*
4: /cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
5: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
6: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-712-529-2
US-10-212-201A-2
US-10-212-35-5
US-10-212-35-5
US-10-212-35-5
US-10-212-35-5
US-09-513-999-4698
US-09-513-999-4698
US-09-513-999-4698
US-09-513-999-4698
US-09-161-241-14
US-09-161-241-11
US-09-161-241-12
US-09-161-241-13
US-09-161-241-316
US-09-161-241-316
US-09-161-261-236
                                                                                                                                                                                                                                                                                                                              Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                         513545 segs, 74649064 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                               Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                   OM protein - protein search, using sw model
                                                                                                                                                                                                                                                         Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                 Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                       US-10-811-328-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query
Match Length
                                                                                                                                                                                                                                           BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1000.0
1000.0
1000.0
63.1
63.1
63.1
63.1
22.1
22.0
22.0
21.7
21.7
21.3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score
                                                                                                                                                                                           Perfect score:
                                                                                                                                                                                                                                         Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Database :
                                                                                                                                                                                                             Sequence:
                                                                                                                                                                                                                                                                                                Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Run on:
```

Sequence 7857, Ap Sequence 8, App Sequence 192, App Sequence 192, App Sequence 192, App Sequence 193, App Sequence 193, App Sequence 1, App Sequence 117, App Sequence 117, App Sequence 19, App Sequence 1, App Sequence 24, App Sequenc
US-09-949-016-7857 US-09-949-016-7858 US-09-1161-241-8 US-09-1188-930-192 US-09-1188-930-192 US-09-312-283C-332 US-09-312-283C-332 US-09-312-283C-332 US-09-489-847-189 US-09-845-583A-10 US-09-148-545-177 US-08-188-545-177 US-08-188-545-177 US-08-18-552-16 US-08-532-384-19 US-08-532-384-19 US-08-532-34-14 US-09-552-702A-24 US-09-562-702A-24
サ サ ろ ろ ろ サ サ サ サ サ ナ ニ ト カ サ サ サ
375 345 345 345 345 299 299 102 102 103 104 104 104 105 105 105 105 105 105 105 105 105 105
<b>σοσυσυσσσ</b> ούν υν
200.6 200.6 1155.0 1155
98 98 98 98 98 98 98 98 98 98 98 98 98 9
44411 44411 45441

### ALIGNMENTS

```
28 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP 87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       100.0%; Score 461; DB 4; Length 108; 100.0%; Pred. No. 7.1e-44; ive 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 2, Application US/10212201A
; Sequence 2, Application US/10212201A
; Patent No. 6756479
; GENERAL INFORMATION:
    APPLICANT: Sheppard, Paul O.
    APPLICANT: Bishop, Paul D.
    APPLICANT: Thompson, Penny P.
    APPLICANT: Thompson, Penny P.
    APPLICANT: Thompson, Penny P.
    APPLICANT: Thompson, Penny P.
    APPLICANT: PROMPSON: 99-81
    CURRENT APPLICATION NUMBER: US/10/212,201A
    CURRENT FILING DATE: 2002-08-02
    PRIOR APPLICATION NUMBER: US/09/712,529
    PRIOR FILING DATE: 2000-11-14
    NUMBER OF SEQ ID NOS: 7
                              Sequence 2, Application US/09712529
Sequence 2, Application US/09712529
Setent No. 648538
GENERAL INPORMATION:
APPLICANT: Sheppard, Paul D.
APPLICANT: Bishop, Paul D.
APPLICANT: Holmpson, Theodore E.
APPLICANT: Thompson, Penny P.
TITLE OF INVENTION: Human Zven Proteins
FILE REFERENCE: 99-81
CURRENT APPLICANTION UNMER: US/09/712,529
CURRENT FILING DATE: 2000-11-14
NUMBER OF SEQUENCE: 1000-11-14
                                                                                                                                                                                                                                                                                                                                      FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 CLPGLACLRISFNRFICLAOK 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 81; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-10-212-201A-2
                                                                                                                                                                                                                                                                                                                                                                  SEO ID NO 2
LENGTH: 108
RESULT 1
US-09-712-529-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-712-529-2
                                                                                                                                                                                                                                                                                                                                           SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠ
```

Sequence 236, App Sequence 236, App

Sequence Sequence Sequence

US-09-905-381A-236 US-09-906-618-236 US-09-949-016-7856

Sequence 236, App

Sequence Sequence

ö

```
; ORGANISM: Homo sapiens
US-10-212-355-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity
                                      Query Match
Best Local Similarity
Matches 45; Conserv
                                                                                                                                                                                                                                                                                                               US-10-212-201A-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-212-201A-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQ ID NO 5
LENGTH: 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 105
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-212-355-5
US-09-712-529-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQ ID NO 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                      ò
                                                                                                                                                      원
                                                                                                                                                                                              ð
                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                     28 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP 87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     28 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPWGKLGDSCHPLTRKVPFFGRRMHHTCP 87
                                                                                                                                                                                                                1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                            0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
0
                                                                                                                                  Query Match 100.0%; Score 461; DB 4; Length 108; Best Local Similarity 100.0%; Pred. No. 7.1e-44; Matches 81; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 100.0%; Score 461; DB 4; Length 108; Best Local Similarity 100.0%; Pred. No. 7.1e-44; Matches 81; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SQUENCE S. Application US/09712529; Sequence S. Application US/09712529; Patent No. 648538; SENERAL INFORMATION: APPLICANT: Sheppard, Paul O. APPLICANT: Bishop, Paul D. APPLICANT: Thompson, Penny P. APPLICANT: Thompson, Penny P. TILE OF INVENTION: Human Zven Proteins FILE REFERENCE: 99-81 CURRENT APPLICATION NUMBER: US/09/712,529; CURRENT FILING DATE: 2000-11-14; NUMBER OF SEQ ID NOS: 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INCORNATION:
APPLICANT: Sheppard, Paul O.
APPLICANT: Sheppard, Paul D.
APPLICANT: Bishop, Paul D.
APPLICANT: Whitmore, Theodore E.
APPLICANT: Thompson, Penny P.
TILE REPERBNCE: 99-81
CURRENT APPLICATION NUMBER: US/10/212,355
CURRENT FILING DATE: 2002-08-02
NUMBER OF SEQ ID NOS: 7
SOFTWARE: FastSEQ for Windows Version 3.0
  SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                   88 CLPGLACLRTSFNRFICLAQK 108
                                                                                                                                                                                                                                                                                           61 CLPGLACLRTSFNRFICLAQK 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 CLPGLACLRISFNRFICLAQK 81
                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 2, Application US/10212355 Patent No. 6828425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT
ORGANISM: Homo sapiens
                                                                          ; ORGANISM: Homo sapiens
US-10-212-201A-2
                    SEQ ID NO 2
LENGTH: 108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQ ID NO 5
LENGTH: 105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQ ID NO 2
LENGTH: 108
                                                                                                                                                                                                                                                                                                                                                                                         RESULT 3
US-10-212-355-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-712-529-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-212-355-2
                                                                                                                                                                                                                                                       엄
                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                             원
                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
```

```
20 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKKKHHTCP 79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP 79
                                                                                                                    1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
63.1%; Score 291; DB 4; Length 105; 58.4%; Pred. No. 4.8e-25; tive 14; Mismatches 18; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           63.1%; Score 291; DB 4; Length 105; 58.4%; Pred. No. 4.8e-25; ive 14; Mismatches 18; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     63.1%; Score 291; DB 4; Length 105;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
APPLICANT: Bishop, Paul O.
APPLICANT: Bishop, Paul D.
APPLICANT: Bishop, Paul D.
APPLICANT: Whitmore, Theodore E.
TITLE OF INVENTION: Human Zven Proteins
TITLE REFERENCE: 99-81
CURRENT APPLICATION NUMBER: US/10/212,201A
CURRENT FILING DATE: 2002-08-02
PRIOR APPLICATION NUMBER: US/9/712,529
PRIOR FILING DATE: 2000-11-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
APPLICANT: Sheppard, Paul O.
APPLICANT: Bishop, Paul D.
APPLICANT: Whitmore, Theodore E.
APPLICANT: Thompson, Penny P.
TITLE OF INVENTION: Human Zven Proteins
FILE REFERENCE: 99-81
CURRENT APPLICATION NUMBER: US/10/212,355;
CURRENT FILING DATE: 2002-08-02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQ ID NOS: 7
SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF SEQ ID NOS: 7
SOFTWARE: FastSEQ for Windows Version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                         ; Sequence 5, Application US/10212201A ; Patent No. 6756479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; Sequence 5, Application US/10212355
; Patent No. 6828425
                                                                                                                                                                                                                                     61 CLPGLACLRISFNRFIC 77
                                                                                                                                                                                                                                                                                               80 ČĽPNĽĽČSŘFPDGŘYRČ 96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 CLPGLACLRISFNRFIC 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CLPNLLCSRFPDGRYRC 96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        45; Conservative
                                                             Conservative
```

Tue Nov

```
Agenence 4698, Application US/09513999C
; Sequence 4698, Application US/09513999C
; Patent No. 6783961
; APPLICANT: Dumas Milne Edwards, J.B.
; APPLICANT: Duclert, A.
; APPLICANT: Duclert, A.
; TITLE OF INVENTION: Expressed Sequence Tags and Encoded Human Proteins.
; PILE REPERENCE: 59.U82.REG
; CURRENT APPLICATION NUMBER: US/09/513,999C
; CURRENT PILING DATE: 2000-02-24
; PRIOR PILING DATE: 1999-02-26
; NUMBER OF SEQ ID NOS: 36681
; SOFFWARE: Patent.pm
                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      20 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGRKKEECHPGSHKIPPFRKRKHHTCP 79
                                                                      9
                                                                                            20 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKKHHTCP 79
                                                                 1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                     Gaps
                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query March
61.6%; Score 284; DB 4; Length 105;
Best Local Similarity 55.8%; Pred. No. 2.8e-24;
Matches 43; Conservative 15; Mismatches 19; Indels
58.4%; Pred. No. 4.8e-25;
live 14; Mismatches 18; Indels
                                                                                                                                                                                                                                                                                                               Sequence 5350, Application US/09621976
; Sequence 5350, Application US/09621976
; Patent No. 6639063
; GENERAL INFORMATION:
; APPLICANT: Dumas Milne Edwards, J.B.
; APPLICANT: Glordano, J.Y.
; TITLE OF INVENTION: ESTS and Encoded Human Proteins.
; TITLE OF INVENTION: ESTS and Encoded Human Proteins.
; TITLE OF INVENTION IS ENSET. 054PR2
; CURRENT APPLICATION NUMBER: US/09/621,976
; CURRENT FILING DATE: 2000-07-21
; NUMBER OF SEQ ID NOS: 19335
; SOFTWARE: PATENT.PM
; SEQ ID NO 5350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; LOCATION: 38
; OTHER INFORMATION: Xaa = Ala,Gly
US-09-621-976-5350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 CLPGLACLRISFNRFIC 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        80 ČĽPNĽĽČSŘFPDGŘYRČ 96
                                                                                                                                                                  61 CLPGLACLRISFNRFIC 77
                                                                                                                                                                                                           80 CLPNLLCSRPPDGRYRC 96
                             45; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM: Homo sapiens
       Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LOCATION: -19..-1
NAME/KEY: UNSURE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME/KEY: SIGNAL
                                                                                                                                                                                                                                                                                    RESULT 7
US-09-621-976-5350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQ ID NO 4698
LENGTH: 80
                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                      g
                                                                                                                                                                     ઠે
```

```
144 SCLRTFDCGPGLCCARHFWIK---ICKPVLLEGQVCSRRGHKDTAQAPEIFQR----CDC 196
                                                                                                                                                                                                    9
                                                                                                                                                                                                                      20 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKIPFFRKRKHHTCP 79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    6 ACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSC----HPLTRKVPFFGRRMHHTCPC
                                                                                                                                                                                                1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                11;
                                                                                                                                                           ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
22.0%; Score 101.5; DB 3; Length 224;
Best Local Similarity 36.4%; Pred. No. 0.001;
Matches 24; Conservative 6; Mismatches 25; Indels 11
                                                                                                                55.5%; Score 256; DB 4; Length 80; 60.7%; Pred. No. 2.7e-21; ive 14; Mismatches 10; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 10, Application US/09161241
Fatent No. 6344541
GENERAL INFORMATION:
APPLICANT: Bass, Michael B
APPLICANT: Theill, Lars E
APPLICANT: Theill, Lars E
APPLICANT: Mang, Daguang
TITLE OF INVENTION: NOVEL DKR POLYPEPTIDES
FILE REFERENCE: A-548
CURRENT APPLICATION NUMBER: US/09/161,241
CURRENT FILING DATE: 1998-09-25
NUMBER OF SEQ ID NOS: 78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GRERAL INCRMATION:
APPLICANT: Bass, Michael B
APPLICANT: Bullivan, John K
APPLICANT: Thaili, Lars E
APPLICANT: Wang, Daguang
TITLE OF INVENTION: NOVEL DKR POLYPEPTIDES
FILE REFERENCE: A-548
CURRENT FILING DATE: 1998-09-25
CURRENT FILING DATE: 1998-09-25
SOFTWARE: PATENTIN VOX. 2.0
                 LOCATION: -19..-1
COTHER INFORMATION: SCORE 7.2
CHER INFORMATION: SEQ VSIMILLIVIVSDC/AV
US-09-513-999C-4698
                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-161-241-14
; Sequence 14, Application US/09161241
; Patent No. 6344541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: Patentin Ver. 2.0
                                                                                                                       Query Match
Best Local Similarity 60.7%
Matches 37; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    197 GPGLLC 202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             62 LPGLAC 67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM: Human
NAME/KEY: SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM: Human
                                                                                                                                                                                                                                                                                                                           80 C 80
                                                                                                                                                                                                                                                                                         61 C 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 10
US-09-161-241-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-161-241-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-09-161-241-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQ ID NO 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQ ID NO 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                ద
                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                           ઠે
```

```
GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
TITLE OF INVENTION: POLYMORPHISMS IN KNOWN GENES ASSOCIATED
TITLE OF INVENTION: WITH HUMAN DISEASE, METHODS OF DETECTION AND USES THEREOF
FILE REFERENCE: CLOO1307
FILE REFERENCE: CLOO1307
FILE REFERENCE: 2000-04-14
PRIOR APPLICATION NUMBER: 60/241,755
PRIOR APPLICATION NUMBER: 60/241,756
PRIOR APPLICATION NUMBER: 60/237,768
PRIOR APPLICATION NUMBER: 60/231,768
PRIOR PRILING DATE: 2000-10-03
PRIOR FILING DATE: 2000-00-09-08
NUMBER OF SEQ ID NOS: 207012
SOFTWARE FREE FREESED FOR WINDOWS VERSION 4.0
                                                                                            7 CDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCPCLPGLA 66
                                                               7 CDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCPCLPGLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    21.0%; Score 97; bB 4; Length 186; 36.1%; Pred. No. 0.0027; Live 5; Mismatches 30; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 97; DB 3; Length 207; Pred. No. 0.003;
                    Indels
Best Local Similarity 36.1%; Pred. No. 0.0029;
Matches 22; Conservative 5; Mismatches 30;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
APPLICANT: Bass, Michael B
APPLICANT: Sullivan, John K
APPLICANT: Theill, Lars E
APPLICANT: Wang, Daguang
TITLE OF INVENTION: NOVEL DKR POLYPEPTIDES
FILE REFERENCE: A-548
CURRENT APPLICATION NUMBER: US/09/161,241
CURRENT FILING DATE: 1998-09-25
NUMBER OF SEQ ID NOS: 78
SEQ ID NO 13
                                                                                                                                                                                                                                                                                                    ; Sequence 7146, Application US/09949016
; Patent No. 6812339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; Sequence 13, Application US/09161241
; Patent No. 6344541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21.0%;
36.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM: Human
US-09-949-016-7146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; ORGANISM: Human
US-09-161-241-13
                                                                                                                                                                                             239 ¢ 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            166 ¢ 166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    67 C 67
                                                                                                                                                    67 C 67
                                                                                                                                                                                                                                                                                  US-09-949-016-7146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 14
US-09-161-241-13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQ ID NO 7146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
                                                                 ð
                                                                                                       d
                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                  Second 1086 Application US/09976594

Patent No. 6673549

GENERAL INFORMATION:
APPLICANT: Furnes, Michael
APPLICANT: Buchbinder, Jenny
TITLE OF INVENTION: GENES EXPRESSED IN C3A LIVER CELL CULTURES TREATED WITH STEROIDS
FILE REPERENCE: PA-0041 US
CURRENT APPLICATION NUMBER: US/09/976,594

PRIOR APPLICATION NUMBER: 60/240,409

PRIOR PELLOR PRIATE 2000-10-12
PRIOR PILLING DATE: 2000-10-12
NUMBER OF SEQ ID NOS: 1143
SEQ ID NO 1086
LENGTH: 266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                189 CLRSSDCASGLCCARHFWSK---ICKPVLKEGOVCTKHRRK-GSHGLEIFORCYCGEGLS 244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7 CDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCPCLPGLA 66
                                                                                                         7 CDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCPCLPGLA
                                                                   4; Gaps
                    Query Match 21.7%; Score 100; DB 3; Length 266; Best Local Similarity 37.7%; Pred. No. 0.0018; Matches 23; Conservative 5; Mismatches 29; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21.7%; Score 100; DB 4; Length 266;
37.7%; Pred. No. 0.0018;
tive 5; Mismatches 29; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 3; Length 259;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: misc feature; OTHER INFORMATĪON: Incyte ID No. 6673549 2481150CD1
US-09-976-594-1086
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION:
APPLICANT: Bass, Michael B
APPLICANT: SUllivan, John K
APPLICANT: Theill, Lars B
APPLICANT: Wang, Daguang
TITLE OF INVENTION: NOVEL DKR POLYPEPTIDES
FILE REFERENCE: A-548
CURRENT APPLICATION NUMBER: US/09/161,241
CURRENT FILING DATE: 1998-09-25
NUMBER OF SEQ ID NOS: 78
SOFTWARE: PatentIn Ver. 2.0
SEQ ID NO 11
LENGTH: 259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21.3%; Score 98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-161-241-11
; Sequence 11, Application US/09161241
; Patent No. 6344541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local Similarity 37.7 Matches 23; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: PRT
ORGANISM: Mouse
                                                                                                                                                                                                                                     245 Ċ 245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   245 C 245
                                                                                                                                                                                             67 C 67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        67 C 67
                                                                                                                                                                                                                                                                                                           RESULT 11
US-09-976-594-1086
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                  g
                                                                                                                                                                                             ò
                                                                                                                                                                                                                                   d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              В
```

```
8 09:17:14 2005
   Tue Nov
```

```
Appli
Appli
Appli
Appli
Appli
Appli
Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Appli
Appli
Appli
Appli
Appl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                              (without alignments)
309.179 Million cell updates/sec
                                                                                                                                                                                                                   November 7, 2005, 20:52:11 ; Search time 109.617 Seconds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
Sequence
Sequence 1
Sequence 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                              1 AVITGACDKDSQCGGGMCCA.....LPGLACLRTSFNRFICLAQK 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     rubilsned_Application_An;

cgn2_6/ptodata/1/pubpaa/US07_PUBCOMB.pep:*

cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep:*

cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep:*

cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep:*

cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep:*

cgn2_6/ptodata/1/pubpaa/US08_NEW_PUB.pep:*

cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*

cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*

cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*

cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*

cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*

cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*

cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*

cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep:*

cgn2_6/ptodata/1/pubpaa/US10_PUBCOMB.pep:*

cgn2_6/ptodata/1/pubpaa/US10_PUBCOMB.pep:*
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-10-016-481-6
US-10-323-157-6
US-10-417-425-5
US-10-467-019-19
US-10-713-567-6
US-10-811-328-6
US-10-912-907-6
US-10-912-907-6
US-10-912-907-6
US-10-912-907-6
US-10-913-918-907-6
US-10-913-918-907-113-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1867879 seqs, 418409474 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Published Applications AA:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                            US-10-811-328-6
461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query
Match Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           81
81
81
81
81
81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0
100.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4 4 4 4 4 6 5 1 1 4 4 6 5 1 4 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 4 6 5 1 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                   Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              110 8 7 6 5 4 3 2
                                                                                                                                                                                                                               Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š.
```

equence 19, aguence 4, pequence 4, equence 4, equence 5, equence 5, equence 5, equence 2,	0,000,000	equence 5, equence 2, equence 17 equence 17 equence 2, equence 26		Sequence 3, Appl. Sequence 11, Appl. Sequence 29, Appl. Sequence 31, Appl. Sequence 31, Appl. Sequence 31, Appl.
10-503-954A 19-886-242A- 10-027-603- 10-692-299- 10-016-481- 10-213-411-	-10-323-157- -10-212-201- -10-467-019- -10-680-755A- -10-680-800A- -10-811-328-	-10-912-907- -10-415-724- -10-990-246- -10-503-554A- -10-680-168-	10-667-019-22-10-667-019-22-10-503-454A-2-10-713-567-34-113-6-10-467-019-39-10-362-504-71	US-10-680-554-9 US-10-680-554-11 US-10-713-567-29 US-10-713-567-31 US-10-811-328-29 US-10-811-328-31
	114 116 116	118 118 118 118	112 112 112 112 112	116 116 117
100 100 100 108 108	108	108 108 108 116	108 108 108 801 801 81	8 8 8 8 1 1 8 8 8 1 1 1 1 1 1 1 1 1 1 1
100.0 100.0 100.0 100.0	0000000	1000.	996 997 997 997 997 997 997 997	999999
461 461 461 461 461 461	• • • • • • • •	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	4 4 4 4 4 4 4 4 4 4 0 0 0 0 0 0 0
12 113 114 115 116	22 2 2 2 2 4 4 5 5 5 5 5 5 5 5 5 5 5 5 5	300 B B B B B B B B B B B B B B B B B B	3 2 2 3 3 3 3 4 4 3 3 4 4 3 4 4 3 4 4 4 4	4 4 4 4 4 4 0 11 5 6 6 7 8 9

# ALIGNMENTS

```
1 AVITGACDKDSQCGGGGCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                        100.0%; Score 461; DB 13; Length 81; 100.0%; Pred. No. 9.6e-44; ive 0; Mismatches 0; Indels (
                                                                    APPLICANT: Zhou, Qun-Yong
APPLICANT: Ehlert, Frederick
TITLE OF INVENTION: Prokineticin Polypeptides, Related
TITLE OF INVENTION: Compositions and Methods
FILE REFERENCE: P-UC 5016
CURRENT APPLICATION NUMBER: US/10/016,481
CURRENT FILING DATE: 2001-11-01
PRIOR PILING DATE: 2001-11-03
PRIOR FILING DATE: 2000-11-03
NUMBER OF SEQ ID NOS: 19
SOSTWARE: FRASESQ for Windows Version 4.0
        Sequence 6, Application US/10016481; Publication No. US20020115610A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         81; Conservative
                                                                                                                                                                                                                                                                                                                                                                TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                       US-10-016-481-6
US-10-016-481-6
                                                                                                                                                                                                                                                                                                                      SEQ ID NO 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            유
```

ö

9

61 CLPGLACLRISFNRFICLAOK 81 CLPGLACLRTSFNRFICLAQK 81

ð

```
RESULT 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHTCP 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 AVITGACDKDSOCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMFHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match 100.0%; Score 461; DB 14; Length 81; Best Local Similarity 100.0%; Pred. No. 9.6e-44; Matches 81; Conservative 0; Mismatches 0; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             100.0%; Score 461; DB 15; Length 81; 100.0%; Pred. No. 9.6e-44; ative 0; Mismatches 0; Indels (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 5, Application US/10417426
| Publication No. US2003023535A1
| GENERAL INFORMATION:
| APPLICANT: Zhou, Oun-Yong
| APPLICANT: Bullock, Clayton M. TITLE OF INVENTION: Screening and Therapeutic Methods For TITLE OF INVENTION: Screening Circadian Rhythm Disorders; FILE REFERENCE: P-UC 5773
| CURRENT APPLICATION NUMBER: US/10/417,426
| CURRENT FILING DATE: 2003-04-15
| PRIOR APPLICATION NUMBER: US 60/372,836
                             Sequence 6, Application US/10323157

Bublication No. US20030113867A1

GENERAL INFORMATION:

APPLICANT: Zhou, Qun-Vong

APPLICANT: Zhou, Qun-Vong

TITLE OF INVENTION: Prederick

TITLE OF INVENTION: Predericin Polypeptides, Related

TITLE OF INVENTION: Predericin Polypeptides,

FILE REFERENCE: P-UC 5016

CURRENT APPLICATION NUMBER: US/10/323,157

CURRENT APPLICATION NUMBER: US/10/016,481

PRIOR FILING DATE: 2001-11-01

PRIOR FILING DATE: 2001-11-01

PRIOR FILING DATE: 2000-11-03

NUMBER OF SEQ ID NOS: 19

SOFTWARE: PastSEQ for Windows Version 4.0

SEQ ID NO 6

LENGTH: 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQ ID NOS: 21
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 5
LENGTH: 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61 CLPGLACLRTSFNRFICLAQK 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 CLPGLACLRTSFNRFICLAQK 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 CLPGLACLRISFNRFICLAOK 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61 CLPGLACLRTSFNRFICLAQK 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 100.
Best Local Similarity 100.
Matches 81; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ORGANISM: Homo sapiens
RESULT 2
US-10-323-157-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-10-323-157-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-10-417-426-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-10-417-426-5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
```

US-10-467-019-19
Sequence 19, Application US/10467019
Sequence 19, Application US/10467019
Sequence 19, No. US20040048314A1
GENERAL INFORMATION:
APPLICANT: Takeda Chemical Industries, Ltd.
TITLE OF INVENTION:
CURRENT APPLICATION NUMBER: US/10/467,019
CURRENT FILING DATE: 2003-08-01
PRIOR APPLICATION NUMBER: JP2001-026820
SPRIOR APPLICATION NUMBER: JP2001-026820
NUMBER OF SEQ ID NOS: 71
SEQ ID NO 19 9 9 9 1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHTCP 60 1 AVITGACDKDSQCGGGGCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMFHTCP 1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP 1 AVITGACDKDSQCGCGCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP Gaps Gaps ; 0 . 0 Length 81; Length 81; Indels Indels Sequence 7, Application US/10680554
; Publication No. US20040229291A1
; GENERAL INFORMATION;
; APPLICANT: Cheng, Wichelle Y.
; TITLE OF INVENTION: Screening and Therapeutic Methods
; TITLE OF INVENTION: Relating to Neurogenesis
; TITLE REPRENCE: 66778-356
; CURRENT APPLICATION NUMBER: US/10/680,554
; CURRENT FILING DATE: 2003-10-03
; PRIOR APPLICATION NUMBER: US 60/416,202
; PRIOR APPLICATION NUMBER: US 60/416,202
; NUMBER OF SEQ ID NOS: 21
; SOFTWARE: FRSENCE for Windows Version 4.0 ; Score 461; DB 15; ; Pred. No. 9.6e-44; 0; Mismatches 0; ; Score 461; DB 16; ; Pred. No. 9.6e-44; 0; Mismatches 0; 61 CLPGLACLRTSFNRFICLAQK 81 61 CLPGLACLRTSFNRFICLAQK 81 61 CLPGLACLRISFNRFICLAQK 81 US-10-713-567-6

Sequence 6, Application US/10713567

Publication No. US20040235732A1

GENERAL INFORMATION:
APPLICANT: Zhou, Qun-Yong 100.0%; 100.0%; 81; Conservative 81; Conservative ; ORGANISM: Homo sapiens US-10-680-554-7 Query Match Best Local Similarity Matches 81; Conser Query Match Best Local Similarity Matches 81; Conserv TYPE: PRT ORGANISM: Human ÚS-10-467-019-19 US-10-680-554-7 LENGTH: 81 SEQ ID NO 7 TYPE: PRT

GenCore version 5.1.6 Copyright (c) 1993 - 2005 Compugen Ltd.

OM protein - protein search, using sw model

Run on:

November 7, 2005, 20:48:31; Search time 23.2814 Seconds (without alignments)
334.754 Million cell updates/sec

US-10-811-328-6 461 Title: Perfect score:

1 AVITGACDKDSQCGGGMCCA.....LPGLACLRTSFNRFICLAQK 81 Sequence:

283416 seqs, 96216763 residues BLOSUM62 Gapop 10.0 , Gapext 0.5

Scoring table:

Searched:

283416 Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

PIR\_79:\*
1: pir1:\*
2: pir2:\*
3: pir3:\*
4: pir4:\* Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Description		REIC protein - hum	MEGF6 protein - ra	laminin alpha-1 ch	hypothetical prote	cell-fate determin	laminin gamma-1 ch	gastric mucin MUCS	jagged protein pre	cytochrome-c3 hydr	EGF repeat transme	cytochrome-c3 hydr	laminin alpha-1 ch	U	hypothetical prote		hypothetical prote	colipase precursor	F	notch 3 protein -	keratin high-sulfu	keratin-like prote	protein F11C7.4 [i	agrin precursor -	notch3 protein - h	hypothetical prote	high cysteine chor	cell wall glycopro	protein T22F7.3 [1	hypothetical prote
ď		JC7188	T13954	S18253	T16271	A49128	MMHUB2	856015	A56136	808198	T30176	HQDVSG	S14458	151909	T16210	T27283	T34264	хгно	T42629	S45306	KRSHA3	138025	E89753	AGCH	S78549	T22812	B21761	S50062	H88380	T32497
2	9 !	7	~	N	~	n,	-	~	~	~	7	Н	7	~	7	~	~	ч	N	7	H	~	ĊI	Н	7	N	7	N	N	N
, ,	match bength be	350	1574	3712	264	2471	1609	850	1220	313	1687	314	3075	112	1599	1620	2195	112	4135	2318	131	257	1722	1955	2321	3871	143	442	1522	2150
Query	March	20.6	16.6	16.5	16.1	15.9	15.3	15.2	14.9	14.8	14.6	14.5	14.4	14.3	14.2	14.2	14.2	14.1	14.1	14.0	13.9	13.9	13.9	13.9	13.8	13.8	13.7	13.7	13.7	13.7
	score	95	76.5	92	74	73.5	70.5	70	68.5	89	67.5	67	66.5	99	65.5	65.5	65.5	65	65	64.5	64	64	64	64	63.5	m	63	63	63	63
Result	. ON	1	7	٣	4	'n	9	7	80	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29

tenascin-X precurs mucin, submaxillar	probable membrane agrin - rat	laminin alpha 5 ch high-cysteine chor	CD27 antigen precu	hypothetical prote	fertilin alpha-il	fertilin alpha-1	protein CTRP - mal	hypothetical prote	protein T22H2.6 [1	hypothetical prote	hypothetical prote	epithelin/granulin
A40701 T03099	S67091 AGRT	T10053	A49053	Н69609	855060	855059	T18397	H75434	E87929	T25138	T25137	B38128
7 7	7	9	4	~	N	~	~	N	~	7	0	7
3566 13288	109	3635	250	297	825	905	2098	203	318	345	358	589
7.7	9 9	9.5	. 4	4.	4.	4.	4.	'n	m.	e.	'n	۳.
13.7 13.7	13	13	2 2	13	13	13	13	13	13	13	13	13
63 63	62.5 62.5	62.5	9 9 9	62	62	62	62	61.5	61.5	61.5	61.5	61.5
30 31	32	34	3 6	37	38	39	40	41	42	4.3	44	45

## ALIGNMENTS

 RESULT 1 JC7188  REIC protein - human C;Species: Homo sapiens (man) C;Date: 04-Mar-2000 #sequence C;Accession: JC7188 R;Tsugi, T.; Miyazaki, M.; Sa Biochem. Biophys. Res. Commun	RESULT 1 JC7188 REIC protein - human C;Species: Homo sapiens (man) C;Species: Homo sapiens (man) C;Species: 04-Mar-2000 #sequence_revision 04-Mar-2000 #text_change 11-May-2000 C;Date: 04-Mar-2000 #sequence_revision 04-Mar-2000 #text_change 11-May-2000 S;Accession: JC7188 R;Tengi, T.; Miyazaki, M.; Sakaguchi, M.; Inoue, Y.; Namba, M. B;Tengi, T.; Miyazaki, M.; Sakaguchi, M.; Inoue, Y.; Namba, M. Biochem: Biophys. Res. Commun. 2589, 20-24, 2000 Biochem: Biophys. Res. Commun. 2589, 20-24, 2000
 A;Ittle: A KEIC gene R A;Reference: JC7188 A;Accession: JC7188 A;Molecule type: mRNA	A; IIIle: A KEIC gene Bnows down-regulation in manage and a manage and
 A;Residues: 1-350 (1507) A;Cross-references: DDBJ:AB034203 A;Experimental source: heart C;Comment: This protein is a secri	A,Residues: 1-530 (1507) A,Croer-references: DDBJ.AB034203 A,Experimental source: heart C,Comment: This protein is a secreted glycoprotein for head induction in amphibian embr
 C;Genetics: A;Gene: reic C;Superfamily: human REIC protein C;Keywords: cardiac muscle; coiled	Genetics: A;Genetics: reic C;Superfamily: human REIC protein C;Keywords: cardiac muscle; coiled coil; glycoprotein; heart; tumor
 Onerv Match	20.6%; Score 95; DB 2; Length 350;

4 7 CDKDSQCGGGCGAVSIWVKSIRICTPMGKLGDSCH-PLTRKVPFFGRRMH-----HTCP 60 29.5%; Pred. No. 0.0072; tive 11; Mismatches 36; Indels Query Marcn Best Local Similarity 29.5' Matches 23; Conservative

208 CDNQRDCQPGLCCAFQRGL-LFPVCTPLPVBGBLCHDPASRLLDLITWELEPDGALDRCP 266 g ò

T13954 MEGF6 protein - rat

C;Gpecies Rattus norvegicus (Norway rat)
C;Gpecies Rattus norvegicus crevision 20-Sep-1999 #text\_change 09-Jul-2004
C;Accession: T13954
R;Nakayama, M.; Nakajima, D.; Nagase, T.; Nomura, N.; Seki, N.; Ohara, O.
R;Nakayama, M.; Nakajima, D.; Nagase, T.; Nomura, N.; Seki, N.; Ohara, O.
A;Reference number: Z14126; MUID:9836089; PMID:9693030
A;Residues: 1-1574 <NAK>
A;Residues: 1-1574 <NAK>
A;Residues: 1-1574 <NAK>
A;Cross references: UNIPROT:088281; EMBL:AB011532; NID:93449293; PIDN:BAA32462.1; PID:9769081; Experimental source: strain Sprague-Dawley; brain
C;Genetics:
A;Gene: MEGF6

a

셤

ઠે 원 ઠે

```
A;Residues: 1-264 <CON>
A;Cross-references: UNIPROT:Q20043; EMBL:U28741; NID:g861290; PID:g861291; PIDN:AAA6832!
A;Experimental source: strain Bristol N2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 AVITGACD-----KDSQC-----GGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKV 48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   37 SIVNGKCECTLRYEGPQCERERCLNGGRRHSAKG----TVRCHCPYGLSGDRCEKVTYCE 92
                                                                                                                                                                                                                              hypothetical protein F35D2.3 - Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Species: Caenorhabditis elegans C;Accession: T16271 R;Connell, M. R;Connell, M. A;Description: The submitted to the EMBL Data Library, June 1995 A;Description: The sequence of C: elegans cosmid F35D2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C;Species: Rattus norvegicus (Norway rat)
C;Date: 21-Jan-1994 #sequence_revision 18-Nov-1994 #text_change 16-Aug-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                7 CDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCPCLPGLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A; Experimental source: Schwann cell
A; Note: sequence extracted from NCBI backbone (NCBIP:127811)
C; Superfamily: Notch protein; ankyrin repeat homology; EGF homology
F;264-295/Domain: EGF homology «EGXI»
F;799-830/Domain: EGF homology «EGFI»
F;877-908/Domain: EGF homology «EGFI»
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 73.5; DB 2; Length 2471; Pred. No. 7.6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Status: preliminary; not compared with conceptual translation A;Molecule type: mRNA A;Residues: 1-2471 <WEI>A;Cross-references: UNIPROT: Q9QW30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 264;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  33; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               C;Accession: A49128
R;Weinmaster, G:; Roberts, V.J.; Lemke, G.
Development 116, 931-941, 1992
A;Title: Notch2: a second mammalian Notch gene.
A;Reference number: A49128; WUID:93202015; PMID:1295745
A;Accession: A49128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F;1909-1941/Domain: ankyrin repeat homology <AN2>F;1943-1975/Domain: ankyrin repeat homology <AN3>F;1943-2008/Domain: ankyrin repeat homology <AN3>F;2009-2041/Domain: ankyrin repeat homology <AN5>F;2009-2041/Domain: ankyrin repeat ho
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
16.1%; Score 74; DB:
Best Local Similarity 28.1%; Pred. No. 1;
Matches 25; Conservative 11; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PGKGKLVEGKCECFERWTGLFCNMRTCFN 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            cell-fate determining gene Notch2 protein - rat
2083 -- CQCLPGVIGDRCDACP----NRWVLI 2104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PFFGRRMHHTCPCL --- PGLAC-LRTSFN 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  F;1876-1908/Domain: ankyrin repeat homology
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      F;1029-1060/Domain: EGF homology <EGF>
F;1067-1098/Domain: EGF homology <EGK3>
F;1153-1184/Domain: EGF homology <EGF3>
F;1191-1222/Domain: EGF homology <EGF3>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              A, Gene: CESP:F35D2.3
A, Introns: 40/3; 71/3; 160/3; 197/3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             15.9%;
28.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
Matches 21; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Accession: T16271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             93
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            C;Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 5
    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             F;776-2115/Domain: III aminin-type EGF-like homology #status atypical <LE1>
F;7776-2115/Domain: III scom3>
F;1776-2115/Domain: laminin-type EGF-like homology #status atypical <LE1>
F;1809-1896/Domain: laminin-type EGF-like homology <LE2>
F;1809-1914/Domain: laminin-type EGF-like homology <LE3>
F;1917-1967/Domain: laminin-type EGF-like homology <LE3>
F;2017-2014/Domain: laminin-type EGF-like homology <LE5>
F;2017-2014/Domain: laminin-type EGF-like homology <LE5>
F;2017-2019/Domain: laminin-type EGF-like homology <LE5>
F;2017-2019/Domain: repeat G2 <RG1>
F;2698-2122/Domain: repeat G2 <RG2>
F;2689-2122/Domain: repeat G3 <RG3>
F;3049-3223/Domain: repeat G4 <RG3>
F;3079-3220/Domain: repeat G5 <RG5>
F;3079-3220/Domain: repeat G5 <RG5>
F;3079-3220/Domain: repeat G5 <RG5>
F;308-3712/Domain: repeat G5 <RG5>
F;1847,1850,1943,2024,215,2257,2301,2323,2482,2554,2538,2569,2699,2720,2890,338,3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A.Status: preliminary
A.Nolecule type: nucleic acid
A.Nolecule type: nucleic acid
A.Rosidues: 1-3712 «KUS>
A.Rosidues: 1-3712 «KUS>
A.Rosidues: UNIPROT:Q00174; GB:M96388; NID:g157799; PIDN:AAA28662.1; PID:g157806
R.Garrison, K.; MacKrell, A.J.; Pessler, J.H.
J. Biol. Chem. 266, 22899-22904, 1991
A.Rittle: Drosophila laminin A chain sequence, interspecies comparison, and domain struct
A.Reference number: S18253; MUID:92078147; PMID:1744083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            laminin alpha-1 chain precursor - fruit fly (Drosophila melanogaster)
C;Species: Drosophila melanogaster
C;Date: 16-Sep-1992 #sequence_revision 24-Jul-1997 #text_change 09-Jul-2004
C;Accession: 828399; $18253
R;Kusche-Gullberg, M.; Garrison, K.; MacKrell, A.J.; Fessler, L.I.; Fessler, J.H.
BMBO J. 11, 4519-4527, 1992
A;Title: Laminin A chain: expression during Drosophila development and genomic sequence.
A;Reference number: 828399; MUID:93049203; PMID:1425586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gene: FlyBase:LanA

;Gene: references: FlyBase:FBgn0002526

;Superfamily: laminin alpha-1 chain; laminin G repeat homology; laminin-type EGF-like h

;Keywords: basement membrane; cell binding; coiled coil; disulfide bond; extracellular

;XOy-303/Domain: laminin-type EGF-like homology cLEG>

;233-400/Domain: laminin-type EGF-like homology cLEG2>

;541-584/Domain: laminin-type EGF-like homology cLEG1>
                                                                                                                                                                                                                                                                                                                      960 CDSACNCSAGAPCDA---VTGSCIC-PAGRWGPRCAQSCPPLT-----FGLNCSQICTCF 1010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2032 TGHCACKSGVTGROCDRCAVDHWKYEKDGCTPCNCNQGYSRGFGCNPNTGK----- 2082
                                                                                                                                                 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .
2
                                                                                                                                                                                                                                             62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4 TGACDKDSQCGGGMC--CAVSIWVKSIRICTPMG-----KLGDSCHPLTRKVPFFGRRMH 56
                                                                                                                                                                                                                                        ---DSCHPLTRKVPFFGRRMHTCPCL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Cross-references: EMBL:M75882; NID:g157797; PIDN:AAA28661.1; PID:g157798
                                                                                                                                                 Gaps
                                                                                                                                       28; Indels 13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           28;
                                                DB 2; Length 1574;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 2; Length 3712;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      28; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
16.5%; Score 76; DB 2
Best Local Similarity 30.7%; Pred. No. 5.7;
Matches 27; Conservative 5; Mismatches
                                      Query Match
16.6%; Score 76.5; Di
Best Local Similarity 33.8%; Pred. No. 2.5;
Matches 22; Conservative 2; Mismatches
                                                                                                                                                                                                                                        7 CDKDSQCGGGMCCAVSIWVKSIRICTPMGKLG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     57 HTCPCLPGL-----ACLRTSFNRFICL 78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A,Accession: 51823
A,Molecule type: mRNA
A,Residues: 1762-3712 «GAR»
A,Cross-references: EMBL:M7586
C,Genetics:
A,Gene: FlyBase:LanA
A,Cross-references: FlyBase:FC;Superfamily: laminin alpha-1
C,Superfamily: laminin alpha-1
C,Keywords: basement membrane,
F,273-330/Domain: laminin-type
F,333-400/Domain: laminin-type
F,333-400/Domain: laminin-type
F,1776-1806/Domain: laminin-type
F,1776-1806/Domain: laminin-type
F,1776-1806/Domain: laminin-type
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | :|
1011 NGASC 1015
                                                                                                                                                                                                                                                                                                                                                                                                                           63 PGLAC 67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Accession: S28399
A; Status: prelimina
```

g

ò

ò

'n

```
November 7, 2005, 20:47:46; Search time 110.587 Seconds (without alignments) 375.076 Million cell updates/sec
                                                                                                                                                                                                                                1 AVITGACDKDSQCGGGMCCA.....LPGLACLRISFNRFICLAQK 81
                                                                                                                                                                                                                                                                                                                                                                       1612378
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                       Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                 1612378 seqs, 512079187 residues
                                                                  OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                        BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                         US-10-811-328-6
461
                                                                                                                                                                                             Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                        Scoring table:
                                                                                                                                                                                                                                                                                                                                     Searched:
                                                                                                                   Run on:
```

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries UniProt\_03:\*
1: uniprot\_sprot:\*
2: uniprot\_trembl:\* Minimum DB seq length: 0 . Maximum DB seq length: 200000000 Database :

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution:

## SUMMARIES

	Description	1	Q9hc23 homo sapien	pog	O9dxu7 mus musculu		Q863h5 bos taurus		homo	Q8tc69 homo sapien	ratt	_						_	_		_	gall	mus	_					Q9qyz8 mus musculu	_	-	Q9ubu2 homo sapien
	QI	PRK2 RAT	PRK2 HUMAN	Q863H4	PRK2 MOUSE	Q6V8 <u>J</u> 7	Q863H5	VPRA DENPO	PRK1 HUMAN	Q8TC69	PRK1 RAT	Q8K457	BV8 BOMVA	QBJFQ0	QBJFE6	Q8JFX9	Q8JFY1	QBJFYO	QBJFX8	Q8JFY2	Q8VEJ3	QBUUX3	DKK1 MOUSE	Q80ULS	DKK4 HUMAN	Q9PWH3	DKK1 HUMAN	Q9DDA4	DKK2 MOUSE	QBBFWO	QEPVUS	DKK2 HUMAN
	DB	; :	-	7	•	•	7		-	7	-	~	-	~	~	ca 	~	~	•	~	~	7		7	- -	2	-1	2		7	2	٦
	Length	107	129	108	128	128	128	81	105							96					8	96	272	272	224	240	266	255	255	259	268	259
de	Query Match	96.5	95.6	92.4	92.1	92.1	88.1	67.8	63.1	62.9	62.0	55.7	53.9	53.9	50.7	50.4	50.4	49.9	48.9	47.4	24.4	23.9	22.3	22.3	22.0	21.7	21.7	21.5	21.3	21.3		ä
	Score	445	440.5	426	424.5	424.5	406	312.5	291	290	286	257	248.5	248.5	233.5	232.5	232.5	230	225.5	218.5	112.5	110	103	103	101.5		100	66	86	86	96	97
	Result No.	1	8	c	4	'n	ω	7	60	σ	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	33

09ubp4 homo sapien	Q8n294 homo sapien Q90839 gallus gall	Q9w6d9 brachydanio	Q9es33 ractus norv	ninsenm snm 6unb60	O57464 xenopus tae	Ocpq81 homo sapien	Q9tts4 bos taurus	Q8spm4 bos taurus	Q8mtx1 caerostris	Q8vhf4 mus musculu	Q8cga7 mus musculu
043532 DKK3_HUMAN	Q8N294 DKK3 CHICK	09W6D	Q9ES33	DKK3_MOUSE	057464	Q6PQ81	Q9TTS4	Q8SPM4	TXCA CAEEX	Q8VHF4	Q8CGA7
7 7	7 7	0	~		~	0	7	~	Н	~	N
171	215 350	241	277	349	259	350	564	5146	102	747	1004
20.6	20.5	20.0	19.8	19.6	19.5	19.3	17.7	17.7	17.2	17.2	17.2
95 95	94.5	92	91.5	90.5	90	89	81.5	81.5	79.5	79.5	79.5
32	3.4 4.0	36	37	38	39	40	41	42	43	4	45

## ALIGNMENTS

```
Genew; HGNC:18455; PROK2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             81; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           InterPro; IPR009523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                            HSSP; P25687; 11MT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NCBI_TaxID=9913;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    28
34
40
45
68
109
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q863H4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0863H4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             datches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 3
SOLITE THE THE THE TENT OF THE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                쉽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IsoId=Q9HC23-2; Sequence=VSP 005219;
TISSUE SPECIFICITY: Expressed in the testis and, at low levels, in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PubMed=15340161; DOI=10.1110/ps.04682504;
Zhang Z., Henzel W.J.;
Zigno Z., Henzel W.J.;
Protein Sci. 13:2819-2824(2004).
-!- FUNCTION: May function as an output molecule from the suprachiasmatic nucleus (SCN) that transmits behavioral circadian rhythm. May also function locally within the SCN to synchronize output. Potently contracts gastrointestinal (GI) smooth muscle.
-!- SUBCELLULAR LOCATION: Secreted.
                                                                                                                                                                                                                                                                                                                                  27 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPWGQVGDSCHPLTRKVPFWGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE=20047850; PubMed=10580115; DOI=10.1016/S0014-5793(99)01473-8; Wechselberger C., Puglisi R., Lepperdinger G., Boitani C., Kreil G.; "The mammalian homologue of Bv8 from frog skin is mainly expressed in
                                                                                                                                                                                                                                                                                                               1 AVITGACDKDSOCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Primates, Catarrhini, Hominidae, Homo.
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=21160229; PubMed=11259612;
Li M., Bullock C.M., Knauer D.J., Ehlert F.J., Zhou Q.-Y.;
"Identification of two prokinetricin cDNAs: recombinant proteins
potently contract gastrointestinal smooth muscle.";
Mol. Pharmacol. 59:692-698 (2001).
                                                                                                                                                                                                                                                                            ..
0
                                                                                                                                                                                                                                    Length 107;
                                                                                                                                                                                                                                            9.2e-42;
                                                                                                                                                                                                   BDFF316CDCB5FED0 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
25-JAN-2005 (Rel. 46, Last annotation update)
Prokineticin 2 precursor (PK2) (Protein Bv8 homolog).
Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Event=Alternative splicing; Named isoforms=2;
                                                                     Potential.
Prokineticin 2.
By similarity.
By similarity.
By similarity.
By similarity.
By similarity.
By similarity.
                                                                                                                                                                                                                                        Score 445; DB
Pred. No. 9.2e-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    129 AA
                                                                                                                                                                                                                                                                            4; Mismatches
           InterPro, IPR009523; Prokineticin.
Prokineticin; 1.
Biological rhythms; Neuropeptide; Signal.
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IsoId=Q9HC23-1; Sequence=Displayed;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE OF 5-129 FROM N.A. (ISOFORM 1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                           61 CLPGLACLRTSFNRFICLAOK 81
                                                                                                                                                                                                   11594 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A. (ISOFORM 2)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEBS Lett. 462:177-181(1999).
                                                                                                                                                                                                                                        96.5%;
95.1%;
                                                                                                                                                                                                                                                                        77; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STANDARD;
                                                                       26
107
45
57
85
93
103
                                                                                                                                          44
67
87
107 AA;
                                                                                                                                                                                                                                      Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE OF 28-42.
RGD; 620280; Bv8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        spermatocytes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Name=2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Name=1
                                                                                                       DISULFID
                                                                                                                                                               DISULFID
                                                                                                                            DISULFID
                                                                                                                                            DISULFID
                                                                                                                                                                                DISULFID
                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          09HC23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 2
PRK2_HUMAN
                                                                                        CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRK2
                                                                                                                                                                                                                                                                        Matches
ð
                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                        셤
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                       entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            28 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKNNFGNGRQERRKR 87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GO: GO: 0005576; C: extracellular; TAS.
GO: GO: 0001664; F: G-protein-coupled receptor binding; TAS.
GO: GO: 0001664; F: G-protein-coupled receptor binding; TAS.
GO: GO: 0001825; P: eactivation of MAPK; TAS.
GO: GO: 0001525; P: anti-apoptosis; IDA.
GO: GO: 0006935; P: cell proliferation; IDA.
GO: GO: 0007204; P: chemotaxis; IDA.
GO: GO: 0007204; P: protein coupled receptor protein signalin. .; NAS.
GO: GO: 0007333; P: perception of pain; TAS.
GO: GO: 00072033; P: perception of pain; TAS.
GO: GO: 00072033; P: permatogenesis; IMP.
the small intestine. INDUCTION: Activated by CLOCK and BMAL1 heterodimers and light; inhibited by period genes (PER1, PER2 and PER3) and cryptochrome genes (CRY1 and CRY2) (Probable). SIMILARITY: Belongs to the prokinecitin family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pfam, PF06607; Prokineticin, 1.
Alternative splicing, Biological rhythms, Direct protein sequencing,
Neuropeptide, Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-JUN-2003 (TrEMBLrel. 24, Created)
01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-MR-2004 (TrEMBLrel. 26, Last annotation update)
01-MR-2004 (TrEMBLrel. 26, Last annotation update)
Bv8/prokineticin 2-like protein splice variant.
Bos taurus (Bovine).
Bos taurus (Bovine).
Mammalia; Metazoa; Chordata, Craniata; Vertebrata; Euteleostomi;
Bovinae; Bos.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 1; Length 129;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KRSKRKKEVPFFGRRMHHTCPCLPGLACLRTSFNRFICLAOK 129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Prokineticin 2.
By similarity.
By similarity.
By similarity.
By similarity.
By similarity.
Missing (in isoform 2).
/FTIG-VSP_005219.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0487679E8700DA55 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -----VPFFGRRMHHTCPCLPGLACLRT&FNRFICLAQK 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5e-41;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 440.5; D
Pred. No. 3.5e-
0; Mismatchès
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           108 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    , Prokineticin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; AF182069; AAG16893.2; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           129 AA; 14314 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              95.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; AF333025; AAK49919.1;
```

```
9
                                                                                                                                                                                                                          87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A. (ISOFORM 1).
STRAIN=C57BL/6J; TISSUB=Testis;
MEDLINE=22354683; PubMed=12466851; DOI=10.1038/nature01266;
Okazaki Y., Furuno M., Kasukawa T., Adachi J., Bono H., Kondo S.,
Nikaido I., Osato N., Saito R., Suzuki H., Yamanaka I., Kiyosawa H.,
Yagi K., Tomaru Y., Hasegawa Y., Nogami A., Schonbach C., Gojobori T.,
Baldarelli R., Hill D.P., Bult C., Hume D.A., Quackenbush J.,
Schriml L.M., Kanapin A., Matsuda H., Batalov S., Beisel K.W.,
                                                                                                                                                                                                  1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                    28 AVITGACDRDPQCGGGMCCAVSLWVKSIRICTPMGKVGDSCHPWTRKVPFLGRRWHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRAIN=129/Sv;
MEDLINE=20047850; PubMed=10580115; DOI=10.1016/S0014-5793(99)01473-8;
Wechselberger C., Pugliei R., Lepperdinger G., Boitani C., Kreil G.;
"The mammalian homologue of Bv8 from frog skin is mainly expressed in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cheng M.Y., Bullock C.M., Li C., Lee A.G., Bermak J.C., Belluzzi J., Weaver D.R., Leslie F.M., Zhou Q.-Y.; Revokineticli 2 transmits the behavioural circadian rhythm of the suprachiasmatic nucleus.";
                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN=129/SvJ;
PubMed=11054548; DOI=10.1016/S0378-1119(00)00355-3;
Jilok A., Engel B., Beier D., Lepperdinger G.;
"Murine Bv8 gene maps near a synteny breakpoint of mouse chromosome
                                                                                                                                                                                                                                                                                                                                                                                                         Name=Proki; Synonyms=Bv8;
Was musculus (Mouse).
Eukaryota: Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
                       TISSUB-Testis;

WEBLINE-2612805; PubMed=12728244; DOI=10.1038/sj.embor.embor830;
Kaser A., Winklmayr M., Lepperdinger G., Kreil G.;

"The AVIT protein family.";

"The AVIT protein family.";

EMBO Rep. 4:469-473(2003).

EMBL; AVI95589; AAP31907.1; -.

HSSP; P25687; IIMT.

HSSP; P26607; Prokineticin.

Pfam; PF06607; Prokineticin.; L.

SEQUENCE 108 AA; 11672 MW; C00410399A9B215E CRC64;
                                                                                                                                                                             ö
                                                                                                                                                    Length 108;
                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN=C57BL/6;
MEDLINE=22022134; PubMed=12024206; DOI=10.1038/417405a;
                                                                                                                                                                                                                                                                                                                                               090XU7; 090XU5; 090XU6;
16-0CT-2001 (Rel. 40, Created)
16-0CT-2001 (Rel. 40, Last sequence update)
05-UJL-2004 (Rel. 44, Last annotation update)
Prokineticin 2 precursor (PK2) (Protein Bv8 homolog).
                                                                                                                                                                            4
                                                                                                                                                     92.4%; Score 426; DB 2;
88.9%; Pred. No. 1.2e-39;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A. (ISOFORM 2), AND FUNCTION.
                                                                                                                                                                                                                                                                                                                                     128 AA.
                                                                                                                                                                             5; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A. (ISOFORMS 1; 2 AND 3).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A. (ISOFORMS 1 AND 2).
                                                                                                                                                                                                                                                                 61 CLPGLACLRISFNRFICLAQK 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             spermatocytes.";
FEBS Lett. 462:177-181(1999).
                                                                                                                                                                                                                                                                                                                                     STANDARD;
                                                                                                                                                                             72; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       and human 3p21.";
Gene 256:189-195(2000).
                                                                                                                                                      Query Match
Best Local Similarity
Matches 72; Conservat
              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                      MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ξ
                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                     8
```

```
And large 1. Described 1. Content 1. E. Cousins S., Andlas E., Described 1. Magnetia D., Mark M. Malas E., Described 1. Magnetia D., Mark M. Malas E., Markhouni L., Makensia E., Mark M. Malas E., Mark M. Malas E., Mark M. Malas E., Described 1. Magnetia T., Numata K., Oktdo T., Pavan W. J. Pertendan Perland R. Sandalin A., Schmaider C., Semple C.A., Setol M., Shimada K., Manger I., Wallestedt C., Wang V., Watnabo Y., Wells E., Manger I., Manger I.,
```

```
TISSUE=Testis;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE=Venom;
                                                                                                                                                                                                                                                                                                                                                                                                                       Bovinae, Bog.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VPRA DENPO
P25687;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VPRA_DENPO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                     RESULT 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 7
                                                                                                                                           SO DRANGE DE LA COMPANIA DEL COMPANIA DEL COMPANIA DE LA COMPANIA DEL COMPANIA DE LA COMPANIA DEL COMPANIA DE LA COMPANIA DE L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           <del>,</del>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ï
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      47
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  27 AVITGACDKDSOCGGGMCCAVSIWVKSIRICTPMGOVGDSCHPLTRKSHVANGROERRRA 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /FTId=VSP_005220.
SHVANGRQERRRAKRRKKEVPFWGRRMHTCPCLPGLAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     27 AVITGACDKDSQCGGGGCCAVSIWVKSIRICTPMGQVGDSCHPLTRKSHVANGRQERRRA
GO; GO:0006935; P:chemotaxis; ISS.
GO; GO:0007623; P:circadian rhythm; IDA.
GO:0007204; P:cytosolic calcium ion concentration elevation; ISS.
GO; GO:0007204; P:cytosolic calcium ion concentration elevation; ISS.
GO; GO:0007186; P:G-protein coupled receptor protein signalin. .; I
GO; GO:0007186; P:percepton outpain; ISS.
GO; GO:0019233; P:perception of pain; ISS.
GO; GO:0045987; P:perception of pain; ISS.
GO; GO:0045987; P:perception of pain; ISS.
InterPro; IPR009523; Prokineticin. 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
STRAIN=Sprague-Dawley;
Chen J., Stratuch S., Kuei C., Wilson S.J., Lovenberg T.W., Liu C.;
Submitted (JUL-2003) to the EMBL/GenBank/DDBJ databases.
EMBL, AY348322; AAR06524.1; -.
InterPro; IPR009523; Prokineticin.
Pfam; PF06607; Prokineticin.
SEQUENCE 128 AA; 14223 MW; 67050CC1A7D59466 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LRTSFNRFICLARK -> VSVCTGILGVPSH (in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     21;
                                                                                                                                                                                                                                                                                                                          Alternative splicing; Biological rhythms; Neuropeptide; Signal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 128;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ch 92.1%; Score 424.5; DB 2; Length 128; Similarity 75.5%; Pred. No. 2.1e-39; 77; Conservative 4; Mismatches 0; Indels 21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KRRKKKKEVPFWGRRMHHTCPCLPGLACLRTSFNRFICLARK 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    48 -----VPFFGRRMHHTCPCLPGLACLRTSFNRFICLAQK 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           48 -----VPFFGRRMHHTCPCLPGLACLRTSFNRFICLAQK 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SF08BA177FDDB58C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                 By similarity.
By similarity.
By similarity.
By similarity.
By similarity.
Missing (in isoform 2).
/FTIG-VSP_005220.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    05-JUL_2004 (TrEMBLrel. 27, Created)
05-JUL_2004 (TrEMBLrel. 27, Last sequence update)
05-JUL_2004 (TrEMBLrel. 27, Last annotation update)
Prokineticin 2 beta.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 424.5; DB 1
Pred. No. 2.1e-39;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               005221
                                                                                                                                                                                                                                                                                                                                                        Potential.
Prokineticin 2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            128 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 isoform 3)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /FTId=VSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                128 AA; 14185 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            92.1%;
75.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 75.5.
Best Total 77; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Rattus norvegicus (Rat).
                                                                                                                                                                                                                                                                                                                                                                                                                       45
106
114
1124
94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Name=PK2beta;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                       DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                            DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q6V8J7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 5
CÓG V837
D Q CO V8
D Q CO S-J
D D D O S-J
D D O S-J
D D O C BURA:
OC BURA:

      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
```

```
GO; GO:00055/6; C:extracellular; ISS.
GO; GO:0001664; F:G-protein-coupled receptor binding; ISS.
GO; GO:000187; P:activation of MAPK; ISS.
GO; GO:000187; P:activation of MAPK; ISS.
GO; GO:0001828; P:anti-apoptosis; ISS.
GO; GO:0006916; P:anti-apoptosis; ISS.
GO; GO:0006916; P:cell proliferation; ISS.
GO; GO:0007204; P:cytosolic calcium ion concentration elevation; ISS.
GO; GO:0007204; P:cytosolic calcium ion concentration elevation; ISS.
GO; GO:0007204; P:inflammatory response; ISS.
GO; GO:0006954; P:inflammatory response; ISS.
GO; GO:0006933; P:perception of pain; ISS.
GO; GO:0007881; P:perception of pain; ISS.
GO; GO:0007881; P:permatogenesis; ISS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          28 AVITGACDRDPQCGGGMCCAVSLWVKSIRICTPMGKVGDSCHPMTRKNHFGNGRQERRKR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE-81115819; PubMed=7461607;
Joubert F.J., Strydom D.J.;
"Snake venom. The amino acid sequence of protein A from Dendroaspis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-MAY-1992 (Rel. 22, Created)
30-MAY-2000 (Rel. 39, Last sequence update)
25-OCT-2004 (Rel. 45, Last annotation update)
Intestinal toxin 1 (MIT 1) (MIT1) (Venom protein A).
Bendroaspis polylepis polylepis (Black mamba).
Bukaryota, Metazoa, Chordatu, Craniata; Vertebrata; Buteleostomi,
Lepidosauria; Squamata; Scleroglossa; Serpentes; Colubroidea;
Rlapidae, Elapinae; Dendroaspis.
                                                                                                                                                                          Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
                                                                                                                                                                                                                                                                                                                                                           MEDLINE=22612805; PubMed=12728244; DOI=10.1038/sj.embor.embor830;
Kaser A., Winklmayr M., Lepperdinger G., Kreil G.;
"The AVIT protein family.";
EMBO Rep. 4:469-473 (2003).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 128;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTR-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 88 KRRKKKVPFLGRRMHTCPCLPGLACSRTSFNRYTCLAQK 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 128 AA; 14290 MW; C22CDBDBE40483EC CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                47 -----KVPFFGRRMHHTCPCLPGLACLRTSFNRFICLAQK'81
                                           01-JUN-2003 (TrEMBLrel. 24, Created)
01-JUN-2003 (TrEMBLrel. 24, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
BV8/prokineticin 2-like protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     88.1%; Score 406; DB 2; 71.3%; Pred. No. 2.3e-37; 7ative 5; Mismatchés 4;
128 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      81 AA
PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pfam; PF06607; Prokineticin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; AY192557; AAP31906.1; -. HSSP; P25687; 11MT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        72; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STANDARD;
PRELIMINARY;
                                                                                                                                                       Bos taurus (Bovine).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Similarity
                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                      NCBI_TaxID=9913;
```

ij

```
Query Match
Best Local Similarity
                                                                                                              SEQUENCE FROM N.A.
                                                          endothelium.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MIM; 606233;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Genew;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SIGNAL
ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
25-JMN-2005 (Rel. 46, Last annotation update)
Prokineticin 1 precursor (Endocrine-gland-derived vascular endothelial growth factor) (EG-VEGF) (Mambakine) (UNQ600/PRO1186)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFG-RRMHHTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=20036442; PubMed=10567694; DOI=10.1016/S0014-5793(99)01459-3; Schweitz H., Pascaud P., Diochot S., Moinier D., Lazdunski M.; "MITI, a black mamba toxin with a new and highly potent activity on intestinal contraction."; ptss Lett. 461:183-188(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1; Gaps
                                                                                                                                                                                                                                                Boisbouvier J., Albrand J.-P., Blackledge M., Jaquinod M., Schweitz H., Lazdunski M., Marion D.; Schweitz H., Lazdunski M., Marion D.; Marion D.; Mrs. Electroral homologue of colipase in black mamba venom revealed by NMR floating disulphide bridge analysis."; J. Mol. Biol. 283:205-219(1998).
-!- FUNCTION: Potently contract gastrointestinal (GI) smooth muscle...; SUBCELLULAR LOCATION: Secreted..... SIMILARITY: Belongs to the prokinecitin family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=21160229; PubMed=11259612;
Li M., Bullock C.M., Knauer D.J., Ehlert F.J., Zhou Q.Y.;
"Identification of two prokineticin cDNAs: recombinant proteins
potently contract gastrointestinal smooth muscle.";
Mol. Pharmacol. 59:692-698 (2001).
                                                                                                                                                                                                                                  MEDLINE=98437381; PubMed=9761684; DOI=10.1006/jmbi.1998.2057;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 1; Length 81;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MEDLINE=21419730; PubMed=11528470; DOI=10.1038/35091000;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LeCouter J., Kowalski J., Foster J., Hass P., Zhang Z.,
  polylepis polylepis (black mamba) venom.";
Hoppe-Seyler's Z. Physiol. Chem. 361:1787-1794(1980).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  P -> Q (in protein A').
C -> S (in Ref. 1).
S -> C (in Ref. 1).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          6C01368841572044 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                              Pfan, PF06607; Prokineticin; 1.
3D-structure; Direct protein sequencing; Toxin.
DISULFID 7 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; Score 312.5; DB ; 
; Pred. No. 3.8e-27; 
16; Mismatches 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            105 AA.
                                                                                                                                                                                                                                                                                                                                                                                                          PDB; 11MT; NWR; @=1-81.
InterPro; IPR009523; Prokineticin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PCLPGLACLRTSFNRFICLAQ 80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                67.8%;
61.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8645 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      50; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              31
60
68
78
73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              81 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=9606;
                                                            CHARACTERIZATION.
                                                                                                                                                                                              BY NMR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Name=PROK1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRK1 HUMAN
P58294;
                                                                                                                                                                                              STRUCTURE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VARIANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DT ACCOOR SELECTION OF THE SELECTION OF 
      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (see http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
Dillard-Telm L., Frantz G., Rangell L., DeGuzman L., Keller G.-A., Peale F., Gurney A., Hillan K.J., Ferrara N.; "Identification of an angiogenic mitogen selective for endocrine gland
                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=22887296; PubMed=12975309; DOJ=10.1101/gr.1293003; MEDLINE=22887296; PubMed=12975309; DOJ=10.1101/gr.1293003; MEDLINE=22887296; PubMed=12975309; DOJ=10.1101/gr.1293003; Clark H.F., Gurney A.L., Abaya E., Baker K., Baldwin D., Brush J., Chow B., Chui C., Crowley C., Currell B., Deuel B., Dowd P., Eaton D., Foster J., Grimaldi C., Gu Q., Hass P.E., Heldens S., Huang A., Kim H.S., Klimowski L., Jin Y., Johnson S., Lee J., Lewis L., Liso D., Mark M., Robbie E., Sanchez C., Schoenfeld J., Seshagiri S., Simmons L., Singh J., Smith V., Stinson J., Vagts A., Vandlen R., Watanabe C., Wieand D., Woods K., Xie M.-H., Yansura D., Yi S., Yu G., Yuan J., Zhang M., Zhang Z., Goddard A., Wood W.I., Godowski P., Gray A.; The secreted protein discovery initiative (SPDI), a large-scale effort to identify novel human secreted and transmembrane proteins: a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Purcein Sci. 13:2819-2824./
-1- FUNCTION: Potently contract gastrointestinal (GI) smooth muscle.
-1- FUNCTION: Potently contract gastrointestinal (GI) smooth muscle.
Induces proliferation, migration and fenestration (the formation of membrane discontinuities) in capillary endothelial cells derived from endocrining glands. Has little or no effect on a variety of other endothelial and non-endothelial cell types.
-1- SUBCELLULAR LOCATION: Secreted.
-1- TISSUE SPECIFICITY: Expressed in the steroidogenic glands, ovary, testis, adrenal and placenta.
-1- SIMILARITY: Belongs to the prokinecitin family.
                                                                                                                                                                                                                                                                                     "Mambakine, a snake venom related endocrine hormone that controls
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Znang z., Henzel w.u.;
"Signal peptide prediction based on analysis of experimentally
verified cleavage sites:";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 105;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Direct protein sequencing; Growth factor; Mitogen; Signal.
                                                                                                                                                                                                                                                                                                                                                        Submitted (APR-2001) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C7E3FDE30EFB416A CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 291; DB 1;
Pred. No. 1.2e-24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  By similarity.
By similarity.
By similarity.
By similarity.
By similarity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE OF 20-34.
PubMed=15340161; DOI=10.1110/ps.04682504; Zhang Z., Henzel W.J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro; IPR009523; Prokineticin.
Pfam; PF06607; Prokineticin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               bioinformatics assessment.";
Genome Res. 13:2265-2270(2003).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; AF333024; AAK49918.1; -. EMBL; AX029225; AAK33111.1; -. EMBL; AX358683; AAQ89046.1; -. HSSP; P25687; 11MT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          11715 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 63.1%;
58.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HGNC:18454; PROK1.
                                                                                                                                                  Nature 412:877-884(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   H-InvDB; HIX0000868; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      105
38
50
78
78
96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20
26
32
37
60
80
105 AA;
```

```
10-OCT-2003
                                                 10-OCT-2003
05-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DISULFID
DISULFID
DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SIGNAL
             à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                  Straubberg R.L., Feinged E.A., Grouse L.H., Derge J.G.,
Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
Antschenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
Brownstein M.J., Usdin T.B., Tooshiyuki S., Carninci P., Frange C.,
Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
Rhiching M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,
Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E.,
Jones S.J., Marra M.A.,
R. "Generation and initial analysis of more than 15,000 full-length human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               79
                         9
                                                 79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKIPPFRKRKHHTCP
                                         20 AVITGACERDVQCGAGTCCAISLWLRGLRMCTPLGREGEECHPGSHKVPFFRKRKHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                         1 AVITGACDKDSOCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                             Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                             TISSUB=Testis; MbMed=12477932; DOI=10.1073/pnas.242603899; MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 105;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           15, Mismatches 18; Indels
18; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Strausberg R.;
Submitted (MAR-2002) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pfam; PF06607; Prokineticin; 1.
SEQUENCE 105 AA; 11729 MW; B570FDB30EFB52D2 CRC64;
                                                                                                                                                                                                              Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 62.9%; Score 290; DB 2; Best Local Similarity 57.1%; Pred. No. 1.5e-24; Matches 44; Conservative 15; Mismatches 18
                                                                                                                                                                      105 AA
14; Mismatches
                                                                                                                                                                                                  Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IPR009523; Prokineticin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 CLPGLACLRTSFNRFIC 77
                                                                            61 CLPGLACLRISFNRFIC 77
                                                                                               CLPNLLCSRFPDGRYRC 96
                                                                                                                                                                                               01-JUN-2002 (TrEMBLrel. 21,
01-JUN-2002 (TrEMBLrel. 21,
01-MAR-2004 (TrEMBLrel. 26,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  80 CLPNLLCSRFPDGRYRC
45; Conservative
                                                                                                                                                                        PRELIMINARY;
                                                                                                                                                                                                                                                               Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 P25687; 11MT
                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                      NCBI_TaxID=9606;
                                                                                                                                                                                                                                        Prokineticin 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             and mouse cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE=Testis;
                                                                                                                                                                                   OBTC69;
01-JUN-2002
01-JUN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  nterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SECUENCE
Matches
                                                                                                                                            а
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                 요
                                                                            ò
                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
```

10

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the Buropean Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             79
                                                                             (Rel. 42, Last sequence update)
(Rel. 44, Last annotation update)
1 precursor (Endocrine-gland-derived vascular endothelial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20 AVITGACERDVQCGAGTCCAISLWIRGLRLCTPLGREGEECHPGSHKIPFFRKRQHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                       STRAIN=Sprague-Dawley;
MEDLINE=22050031; PubMed=12054613; DOI=10.1016/S0006-291X(02)00239-5;
                                                                                                                                                                                                                                                                                                                                                                                                                                    Masuda Y., Takata, Y., Terao Y., Kumano S., Ishibashi Y., Suenaga M., Abe M., Fukusumi S., Watanabe T., Shintani Y., Yamada T., Hinuma S., Inatomi N., Ohtaki T., Onda H., Fujino M.;
Isolation and identification of EG-VEGF/prokineticins as cognate ligands for two orphan G-protein-coupled receptors.";
Biochem. Biophys. Res. Commun. 293:396-402(2002).
Induces proliferation, migration and fenestration (the formation of membrane discontinuities) in capillary endothelial cells derived from endocrine glands. Has little or no effect on a variety of other endothelial and non-endothelial cell types (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi;
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Rattus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 286; DB 1; Length 105;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Prokineticin 1.
By similarity.
By similarity.
By similarity.
Fy similarity.
By similarity.
By similarity.
By similarity.
W, BDF0C42122B1C5B6 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 similarity).
SUBCELLULAR LOCATION: Secreted (By similarity).
SIMILARITY: Belongs to the prokinecitin family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pred. No. 4.2e-24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ā
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         15; Mismatches
105 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q8K457;
01-OCT-2002 (TrEMBLrel. 22, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  InterPro, IPR009523; Prokineticin.
Pfam; PF06607; Prokineticin; 1.
Growth factor; Mitogen; Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; AY089983; AAM09104.1; -.
                                                      (Rel. 42, Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               11642 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 CLPGLACLRTSFNRFIC 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CSPSLLCSRFPDGRYRC 96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      62.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  55.8%;
                                                                                                                                                             growth factor) (EG-VEGF).
Name=Prok1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            43; Conservative
                                                                                                                              precursor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            105
38
50
78
78
86
                                                                                                                                                                                                                   Rattus norvegicus (Rat)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RGD; 620898; Prok1
                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                         NCBI_TaxID=10116;
                                                                                                                                      Prokineticin 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q8K457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 11
Q8K457
ID Q8K45
AC Q8K45
DT 01-OC
```

```
modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                 EMBL; AF168790; AAD45816.1; -.
HSSP; P25687; 11MT.
InterPro; IPR009523; Prokineticin.
PEam; PF06607; Prokineticin; 1.
Direct protein sequencing; Signal.
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Comp. Biochem. Physiol. B, Bio.
EMBL; AF411091; AAN03822.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     80 CKSGLTCSK-SGEKFQC 95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 CLPGLACLRTSFNRFIC 77
                                                                                                                                    96
38
50
78
86
10102 MW;
                                                                                                                                                                                                                                                                                                                                                                61 CLPGLACLRTSFNRFIC 77
                                                                                                                                                                                                                                                                                                                                                                                            80 CKSGLTCSK-SGEKFKC 95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           53.98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         53.2%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       41; Conservative
                                                                                                                                                                                                                                                                                42; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                  Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                       20
32
37
80
80
                                                                                                                                                   DISULFID
                                                                                                                                                                                                         DISULFID
                                                                                                                                                                              DISULFID
                                                                                                                                                                                             DISULFID
                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              maxima."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Q8JFE6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OBJFOO
                                                                                                                                         CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 13
Q8JFQ0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 14
                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q8JFE6
ID Q6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                        셤
 ò
                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration between the SWiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6 ACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCPCLPGL 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A., AND PARTIAL SEQUENCE.

TISSUB-Skin secretion;

MEDLINE=99349621; PubMed=10422759; DOI=10.1016/S0014-2999(99)00229-0;

MEDLINE=9349621; PubMed=10422759; DOI=10.1016/S0014-2999(99)00229-0;

MEDLINE=9349621; PubMed=10422759; DOI=10.1016/S0014-2999(99)00229-0;

Barra D., Kreil G.;

Barra D., Kreil G.;

"BV8, a small protein from frog skin and its homologue from snake
"brown induce hyperalgesia in rats.";

Eur. J. Pharmacol. 374:1899-196(1999).

-: FUNCTION: Potently contract gastrointestinal (GI) smooth muscle.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Archeobatrachia; Bombinatoridae; Bombina.
NCBI_TaxID=8348;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                           STRAIN=C57BL/6;
MEDLINE=2202134; PubMed=12024206; DOI=10.1038/417405a;
Cheng M.Y., Bullock C.M., Li C., Lee A.G., Bermak J.C., Belluzzi J.,
Weaver D.R., Leelie F.M., Zhou Q.Y.;
"Prokineticin 2 transmits the behavioural circadian rhythm of the suprachiamatic mucleus.";
                                                                     Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
                                                                                                                                                                                                                                                                    MGD; MGI:2180370; Prokl.

GO; GO:0005576; C:extracellular; IDA.

GO; GO:0000187; P:activation of MAPK; IDA.

GO; GO:0000189; P:activation of MAPK; IDA.

GO; GO:0007623; P:activation of mapk; IDA.

GO; GO:0008284; P:positive regulation of cell proliferation; IDA.

GO; GO:0045765; P:regulation of angiogenesis; IDA.

InterPro; IPR00523; Prokineticin.

Profam; PF06607; Prokineticin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                         ó
                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 55.7%; Score 257; DB 2; Length 81; Best Local Similarity 51.4%; Pred. No. 5.6e-21; Matches 37; Conservative 15; Mismatches 20; Indels
                                                                                                                                                                                                                                                                                                                                                                                                  81 AA; 9192 MW; 7BBE3EC6B16A8011 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Induces hyperalgesia.
--- SUBCELLULAR LOCATION: Secreted.
--- SIMILARITY: Belongs to the prokinecitin family.
     Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (Rel. 40, Created)
(Rel. 40, Last sequence update)
(Rel. 44, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           96 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bombina variegata (Yellow-bellied toad).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
                                                                                                                                                                                                                       Nature 417:405-410(2002).
EMBL; AF487281; AAM49573.1; -.
HSSP; P25687; 11MT.
    01-OCT-2002 (TrEMBLrel. 22, 01-MR-2004 (TrEMBLrel. 26, Prokineticin I (Fragment). Name-Proki; Synonyms-Pkl; Mus musculus (Mouse).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 LCSRFPDGRYRC 72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            66 ACLRISFNRFIC 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Protein Bv8 precursor.
                                                                                                                              SEQUENCE FROM N.A.
                                                                                                   NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     16-OCT-2001
05-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BV8 BOMVA
Q9PW66;
                                                                                                                                                                                                                                                                                                                                                               in.
Pfam; F.
TER
                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BV8_BOMVA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          硆
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
```

```
ä
  oved. Usage by and for commercial 
(9ee http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20 AVITGACDRDVQCGSGTCCAASLWSRNIRFGVPLGNNGEBCHPASHKVPYNGKRLSSLCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUE-Skin secretions;
MEDINE-2215112; PubMed-112628181; DOI=10.1016/S1096-4959(02)00294-4;
MEDINE-2215112; PubMed-112628181; DOI=10.1016/S1096-4959(02)00294-4;
Table R., Liu H., Lee W.H., Zhang Y.;
"Two novel Bv8-like peptides from skin secretions of the toad Bombina
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 AVITGACDKDSOCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BV8 protein homolog 2. Last annotation update)
Bombina maxima (Giant fire-bellied toad) (Chinese red belly toad).
Bukaryota, Metazoa, Chordata; Craniata; Vertebrata; Buteleostomi;
Amphibia; Batrachia; Anura; Archeobatrachia; Bombina.
NCBI_TaxID=161274;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        B, Biochem. Mol. Biol. 134:509-514(2003).
and for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .;
;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 2; Length 96;
                                                                                                                                                                                                                                                                                                                                                                                                                                   96;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    23; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 1; Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   24; Indels
                                                                                                                                                                                                                                                            By similarity.
By similarity.
By similarity.
By similarity.
By similarity.
By similarity.
A12490A7437609B4 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HSSP; P25687; 11MT.
InterPro; IPR009523; Prokineticin.
Pfam; PF06607; Prokineticin; 1.
SEQUENCE 96 AA; 10198 MW; EC4EAA5EFB49B2F0 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-OCT-2002 (TrEMBLrel. 22, Created)
01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; Score 248.5; DB 2
; Pred. No. 9.7e-20;
12; Mismatches 23
                                                                                                                                                                                                                                                                                                                                                                                                                                                       .7e-20;
                                                                                                                                                                                                                                                                                                                                                                                                                         53.9%; bcc. No. 5...54.5%; Pred. No. 5....10; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          96 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            96 AA.
                           entities requires a license agreement (9
or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                             Protein
```

ω

SO DE SEL LA SERVICIO DE LA SERVICIO DE LA COLO DE LA C

```
96 AA; 10127 MW; 226A65C8654B1BA6 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              96 AA
                                                                                                                                                                                                                                                                                      96 AA
                                                                13, Mismatches
                                                                                                                                                                                                                                                                                                                     Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro, IPR009523; Prokineticin.
Pfam; PF06607; Prokinetlcin; 1.
Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     J. Biochem. 371:125-130(2003).
EMBL; AJ440232; CAD29342.1; -.
HSSP; P25687; 11MT.
                                                                                                                                                                 61 CLPGLACLRTSFNRFIC 77
                                                                                                                                                                                                80 ČNTĠĽTČPK-ŚGEKPQČ 95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 CLPGLACLRISFNRFIC 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            80 CNTGLTCSK-SGEKFOC 95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20 96
96 AA; 10103 MW;
                                                                                                                                                                                                                                                                                                                   (TrEMBLrel. 22, (TrEMBLrel. 22, (TrEMBLrel. 26,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity 49.4%
nes 38; Conservative
                                                                  39; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY;
                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               BM8-d protein precursor.
                                                                                                                                                                                                                                                                                                                                                                      BM8-c protein precursor.
Bombina maxima (Giant fi
                                                Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                         NCBI_TaxID=161274;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=161274;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           secretions.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE=Skin;
                                                                                                                                                                                                                                                                                                                     -OCT-2002
                                                                                                                                                                                                                                                                                                                                     01-OCT-2002
01-MAR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-OCT-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              01-OCT-2002
01-MAR-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE
 SEQUENCE
                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QBJFYO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OBJEYO
                                                                                                                                                                                                                                                                                    Q8JFY1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CHAIN
                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                 RESULT 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QBJFY0
 g
                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                임
                                                                                                                                                                 ò
                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 AVITGACDKDSQCGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20 AVITGVCDRDAQCGSGTCCAASAFSRNIRFCVPLGNNGEECHPASHKVPYNGKRLSSLCP 79
01-OCT-2002 (TEMBLrel. 22, Created)
01-OCT-2002 (TEMBLrel. 22, Last sequence update)
05-JUL-2004 (TEMBLrel. 27, Last annotation update)
BNG-a protein precursor (Bv8 protein homolog 1).
BNG-a protein fire-bellied toad) (Chinese red belly toad).
BNG-xyota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Amphibia; Batrachia; Anura; Archeobatrachia; Bombinatoridae; Bombina.
                                                                                                                                                                                                                                                                                                  TISSUE=Skin secretions;
MEDLINE=22515712; PubMed=12628381; DOI=10.1016/S1096-4959(02)00294-4;
                                                                                                                                                                                                                                                                                                                                     Lai R., Liu H., Lee W.H., Zhang Y.; "Two novel Bv8-like peptides from skin secretions of the toad Bombina
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-OCT-2002 (TrEMBLrel. 22, Created)
01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
01-OCT-2002 (TrEMBLrel. 26, Last annotation update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
BM8-e protein precursor.
Bombina maxima (Giant fire-bellied toad) (Chinese red belly toad).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Archeobatrachia; Bombina.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                  Comp. Biochem. Physiol. B, Biochem. Mol. Biol. 134:509-514(2003)
EMBL; AJ440230; CAD29340.1; -
EMBL; AF411090; AAN03821.1; -.
HSSP; P25687; 11MT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Chen T., Farragher S., Bjourson A.J., Orr D.F., Rao P., Shaw C., "Granular gland transcriptomes in stimulated amphibian skin
                                                                                                                                                                                                Chen T., Farragher S., Bjourson A.J., Orr D.F., Rao P., Shaw C., "Granular gland transcriptomes in stimulated amphibian skin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        50.7%; Score 233.5; DB 2; Length 96; 50.6%; Pred. No. 2.7e-18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BM8-a protein.
2269AAC8654B18A6 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         24;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        39; Conservative 13; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             96 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Potential.
BM8-e protein.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Potential.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           J. Biochem. 371:125-130(2003).
J. Biochem. 371:125-130(2003).
EMBL; AJ440234; CAD29344.1; -.
HSSP; P25687; ILM.
InterPro; IPR009523; Prokineticin.
Pfam; PF06607; Prokineticin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      InterPro; IPR009523; Prokineticin.
Pfam; PF06607; Prokineticin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               80 CNTGLTCSK-SGEKFQC 95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 CLPGLACLRTSFNRFIC 77
                                                                                                                                                                                                                                   secretions.";
J. Biochem. 371:125-130(2003)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20 96
96 AA; 10117 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  19
96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
TISSUE=Skin;
                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  secretions.";
                                                                                                                                                                                   TISSUE=Skin;
                                                                                                                                                                                                                                                                                                                                                                       maxima.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Signal.
SIGNAL
CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ignal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q8JFX9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 15
```

셤 ò g

ઠ

FTW RRTH RELEASE OF THE PROPERTY OF THE PROPER

```
9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20 AVITGVCDRDAQCGSGTCCAASAFSRNVRFCVPLGNNGBECHPASHKVPYNGKRLSSLCP 79
                                                                                                                                                                       20 AVITGVCDRDAQCGSGTCCAASAFSRNIRFCVPLGNNGEECHPASHKVPYNGKRLSSLCP
                                                                                                                                 1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Amphibia, Batrachia, Anura, Archeobatrachia, Bombinatoridae, Bombina.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bombina maxima (Giant fire-bellied toad) (Chinese red belly toad).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi;
Amphibia, Batrachia, Anura, Archeobatrachia, Bombinatoridae, Bombina
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (Giant fire-bellied toad) (Chinese red belly toad)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ;;
                                                                       ..
H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Shaw
50.4%; Score 232.5; DB 2; Length 96; 50.6%; Pred. No. 3.4e-18;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 2; Length 96;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUB=Skin;
Chen T., Farragher S., Bjourson A.J., Orr D.F., Rao P., Shaw
"Granular gland transcriptomes in stimulated amphibian skin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Chen T., Parragher S., Bjourson A.J., Orr D.F., Rao P., Shar
"Granular gland transcriptomes in stimulated amphibian skin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 24; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Potential.
BM8-c protein.
227EAIA5C49B18A6 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (TrEMBLrel. 22, Created) ; (TrEMBLrel. 22, Last sequence update) (TrEMBLrel. 26, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             50.4%; Score 232.5; DB 2
49.4%; Pred. No. 3.4e-18;
tive 14; Mismatches 24
```

```
Bombina maxima (Giant fire-bellied toad) (Chinese red belly toad).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Archeobatrachia; Bombinatoridae; Bombina.
NCBI_TaxID=161274;
                                                                                                                                                                                                                                                                                                                                                                                                                          47.4%; Score 218.5; DB 2; Length 96; 48.1%; Pred. No. 1.2e-16;
                                                                                                                                             Chen T., Farragher S., Bjourson A.J., Orr D.F., Rao P., Shar
"Granular gland transcriptomes in stimulated amphibian skin
                                                                                                                                                                                                                                                                                                                                                               BM8-b protein.
D77CAACFF54B020C CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     14; Mismatches
                                                                                                                                                                                                                                                                                                                                            Potential.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                                                                                                                                                                           J. Biochem. 371:125-130(2003).
EMBL; AJ440231; CAD29341.1; -.
HSSP; P25687; IIMT.
InterPro; IPR009523; Prokineticin.
Pfam; PP06607; Prokineticin; 1.
                                                                                                                                                                                                                                                                                                                                                                                   96 AA; 10186 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 CLPGLACLRISFNRFIC 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       20,
20,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      80 CNTGLICSK-SGEKYQC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 and mouse cDNA sequences."
                                                                                                                                                                                                                                                                                                                                                                                                                                             Best'Local Similarity 48.19
Matches 37; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-MAR-2002 (TrEMBLrel.
01-MAR-2002 (TrEMBLrel.
01-JUN-2003 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Dickkopf homolog 4.
                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NCBI_TaxID=10090;
                                                                                                                                                                                                   secretions.";
                                                                                                                                  TISSUE=Skin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Name=Dkk4;
                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                      Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                08VEJ3
                                                                                                                                                                                                                                                                                                                                                                   CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q8VEJ3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20 AVITGVCDRDAQCGSGTCCAASAFSRNIRFCVPLGNNGEECHPASHKVPSDGKRLSSLCP 79
                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                  20 AVITGYCDRDAQCGSGTCCAASAFSRNIRFCVPLGNNGEECHPASHKVPYNGKRLSSLCP 79
                                                                                                                                                                                                                                                                                                                        1 AVITGACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BM8-f protein precursor.

Bombina maxima (Giant fire-bellied toad) (Chinese red belly toad).

Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;

Amphibia; Batrachia; Anura; Archeobatrachia; Bombinatoridae; Bombina.

NCBI_TaxID=161274;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Chen T., Farragher S., Bjourson A.J., Orr D.F., Rao P., Shaw C., "Granular gland transcriptomes in stimulated amphibian skin
                                                                                                                                                                                                                                                                                     .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           48.9%; Score 225.5; DB 2; Length 96; 49.4%; Pred. No. 2.1e-17; Live 13; Mismatches 25; Indels 1
                                                                                                                                                                                                                                          ch 49.9%; Score 230; DB 2; Length 96; 1 Similarity 51.4%; Pred. No. 6.5e-18; 36; Conservative 13; Mismatches 21; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BM8-f protein.
2269A070FFE118A6 CRC64;
                                                                                                                                                                               BM8-d protein.
2269AAD4154B18A6 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Created)
Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-OCT-2002 (TrEMBLrel. 22, Created)
01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
01-MAR-2004 (TrEMBLrel. 26, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Potential
                                                                                                                                                            Potential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 J. Biochem. 371:125-130(2003).
BMEL, AJ440235, CAD29345.1; -..
HSSP, P25687, 1MT.
InterPro, IPR009523; Prokineticin.
                                J. Biochem. 371:125-130(2003).
EMBL; AJ440233; CAD29343.1; -..
EMSP; P25687; IIMT.
InterPro; IPR09523; Prokineticin.
Pfam; PF06607; Prokineticin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pfam; PF06607; Prokineticin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CNTGLICSK-SGEKYQC 95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 CLPGLACLRISFNRFIC 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      96 AA; 10058 MW;
                                                                                                                                                            1 19
20 96
96 AA; 10057 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q8JFY2;
01-OCT-2002 (TrEMBLrel. 22,
01-OCT-2002 (TrEMBLrel. 22,
01-MAR-2004 (TrEMBLrel. 26,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity 49.49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BM8-b protein precursor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                 61 CLPGLACLRT 70
                                                                                                                                                                                                                                                                                                                                                                                                                                                        CNTGLTCSKS 89
                                                                                                                                                                                                                                            Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    secretions.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TISSUE=Skin;
                                                                                                                                                                                    CHAIN
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                          Signal.
SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OBJFX8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q8JFY2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Q8JFX8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 18
Q8JFX8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      음남남남음
                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                       RT DR DR ET SON 
                                                                                                                                                                                                                                                                                                                                                                                                                 ઠ
                                                                                                                                                                                                                                                                                                                                 ઠ
```

1;

25; Indels

```
9
              20 AVITGVRDRDAQCGSGTCCAASAFSRNIRFCVPLGNNGEECHPASHKVPYNGKRLSSLCP
1 AVITGACDKDSQCGGGGCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCP
                                                                                                                                                                                                                                  Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                        Last sequende update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
STRAIN-CZECH II; TISSUE-Mammary tumor;
```

SOR DR SE

음

ò 셤

ठे

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      195 CLRSSDCAAGLCCARHFWSK---ICKPVLKEGOVCTKHKRK-GSHGLEIFORCYCGEGLA 250
                                                                                                                                                                MEDILINE=98111224; PubMed=9450748; DOI=10.1038/34848; Glinka A., Wu W., Delius H., Monaghan A.P., Blumenstock C., Niehrs C.; "Dickkopf-1 is a member of a new family of secreted proteins and functions in head induction.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       7 CDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCPCLPGLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRAIN=BS/EGFP transgenic ICR mice; TISSUE=Trophoblast Stem Cell; MEDLINE=22380257; PubMed=12477932; DOI=10.1073/pnas.242603899; Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G., Klausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D., Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K., Hopkins R.F., Jordan H., Moore T., Max S.I., Wang J., Hsieh F.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MGD, MGI:1329040; Dkkl.
InterPro; TPR006796; dickkopf_N.
Pfam; PP04706; Dickkopf_N; 1.
Developmental protein; Glycoprotein; Sighal; Wnt signaling pathway.
05-JUL-2004 (Rel. 44, Last annotation update)
Dickkopf related protein-1 precursor (Dkk-1) (Dickkopf-1) (mDkk-1)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus.
                                                                      Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Potential.

272 Dickkopf related protein-1.

141 DKK-type Cyb-1.

262 N-linked (GloNAc. .) (Potential).

29268 MW, AB9FA35DFA57D3EE CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         22.3%; Score 103; DB 1; Length 272; 39.3%; Pred. No. 0.0022; rive 4; Mismatches 29; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                24, Created)
24, Last sequence update)
26, Last annotation update)
                                                                                                                                                                                                                                         Nature 391:357-362(1998).
-!- FUNCTION: Inhibitor of Wnt signaling pathway.
-!- SUBCELLULAR LOCATION: Secreted.
-!- SIMILARITY: Belongs to the dickkopf family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               272 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; AF030433; AAC02426.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-MAR-2004 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               141
269
262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (TrEMBLrel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             86 1.
195 2.
262 2.
272 AA;
                                                        Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Dickkopf homolog 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
es 24; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HSSP; P25687; 11MT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=10090;
                                                                                                             NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C 251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                υ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Name=Dkk1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CARBOHYD
                                                                                                                                                    SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q80UL5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 23
 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ñ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2;
                                                                                                                                                                                                                                                                  20 CLRSSDCAAGLCCARHFWSK---ICKPVLREGQVCTRHRRK-GAHGLEIFQRCPCAEGMA 75
                                                                                                                                                                                                                                               6 ACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSC----HPLTRKVPFFGRRMHHTCPC 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=21559221; PubMed=11702953; DOI=10.1016/S1534-5807(01)00041-7; Mukhopadhyay M., Shtrom S., Rodriguez-Esteban C., Chen L., Tsukui T., Gomer L., Dorward D.W., Glinka A., Grinberg A., Huang S.P., Niehrs C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       7 CDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCPCLPGLA
                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4; Gaps
                                                                                                                                                                                                           11;
                                                                                                                                                                      Length 221;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gomer L., Dorwara D.m., Carrest Belmonte J.C.I., Westphal H., "Blockcopfi is required for embryonic head induction and limb morphogenesis in the mouse."; morphogenesis in the mouse.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 96;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    28; Indels
                                                                                                                                                                                                         Indels
Strausberg R.;
Submitted (DEC-2001) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Tsukui T., Belmonte J.C.;
Submitted (JUL-2001) to the EMBL/GenBank/DDBJ databases.
EMBL; AYO49017; AALO7515.1; -.
HSSP; P25687; 11WT.
                                                                        MGD; MGI:2385299; Dkk4.
GO: 6005615; C:extracellular space; TAS.
Pfam; PF04706; Dickkopf N; 1.
SEQUENCE 221 AA; 24260 MW; 670AD9F750BF1715 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          043E6A647D5AF4E7 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Last sequence update)
Last annotation update)
                                                                                                                                                                                                         23;
                                                                                                                                                                      DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 110; DB 2;
Pred. No. 0.00014;
                                                                                                                                                                    24.4%; Score 112.5; DB 2 37.9%; Pred. No. 0.00016;
                                                                                                                                                                                                                                                                                                                                                                                                                                                          96 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (Rel. 40, Created)
(Rel. 40, Last sequence update)
                                                                                                                                                                                                         7; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          96 AA; 10756 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             23.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-MAR-2002 (TrEMBLrel. 20, 01-MAR-2002 (TrEMBLrel. 20, 01-MAR-2002 (TrEMBLrel. 20, 01)
                                   EMBL; BC018400; AAH18400.1;
HSSP; P25687; 11MT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 37.77
Best Local 23, Conservative
                                                                                                                                                                                      Best Local Similarity 37.9
Matches 25; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gallus gallus (Chicken).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STANDARD;
                                                                                                                                                                                                                                                                                                                                                            197 GPGLTC 202
                                                                                                                                                                                                                                                                                                                         62 LPGLAC 67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Dkk-1 (Fragment).
Name=Dkk-1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NCBI_TaxID=9031;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   c 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  67 C 67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DKKI MOUSE
054908;
16-0CT-2001
16-0CT-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gallus
                                                                                                                                                                                                                                                                                                                                                                                                                                                        08UUX3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 22
DKK1 MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 21
Q8UUX3
```

a

ò d

ò

99

Gaps

```
Submitted (SEP-1998)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               62 LPGLAC 67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Wnt signaling
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Dickkopf1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Name=dkk1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DOMAIN
DOMAIN
CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        09 PWH3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         09PWH3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CHAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
Stapleton M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
Brownstein M.J., Uddin T.B., Toshiyuki S., Carninci P., Prange C.,
Raha S.S., Loquellano N.A., Perers G.J., Abramson R.D., Mullahy S.J.,
Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
Villalon D.K., Muzny D.M., Sodergene E.J., Lu X., Gibbs R.A.,
Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
Whiting M., Madan A., Young A.C., Shevchenko Y., Boulfard G.G.,
Rodriguez A.C., Grimwood J., Schmutz J., Myers R.M., Butterfield Y.S.,
Krzywinski M.I., Skalska U., Smailus D.E., Schnerch A., Schein J.E.,
Jones S.J., Marra M.A.;
Generation and initial analysis of more than 15,000 full-length human
                                                                                                                                                                                                                                                                                                                                                                                                            7
                                                                                                                                                                                                                                                                                                                                                                                                                                                    99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Human Dickkopf as well as DAN family members, Cerberus and Gremlin, are preferentially expressed in the epithelial malignant cell lines."; J. Biochem. Mol. Biol. Biophys. 3:239-242(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                     7 CDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCPCLPGLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE=20035735; PubMed=10570958; DOI=10.1016/S0378-1119(99)00365-0; Krupnik V.B., Sharp J.D., Jiang C., Robison K., Chickering T.W., Amaravadi L., Brown D.E., Guyot D., Mays G., Leiby K., Chang B. Duong T., Goodearl A.D., Gearing D.P., Sokol S.Y., McCarthy S.A.; "Functional and structural diversity of the human Dickkopf gene
                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q9UBT3; Q9Y4C3;
L-CCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
25-JAN-2005 (Rel. 46, Last annotation update)
Dickkopf related protein-4 precursor (Dkk-4) (Dickkopf-4)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                      STRAIN=B5/EGFP transgenic ICR mice; TISSUE=Trophoblast Stem Cell;
                                                                                                                                                                                                                                                                                                                                                                                                             4;
                                                                                                                                                                                                                                                                                                                                                                                 22.3%; Score 103; DB 2; Length 272; 39.3%; Pred. No. 0.0022;
                                                                                                                                                                                                                                                                                                                                                                                                            29; Indels
                                                                                                                                                                                                                                                                 the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                     MGD; MGI:1329040; Dkkl.
GO; GO:0005615; C:extracellular space; TAS.
Interebro; IPR006796; dickkopf. N.
Pfam; PF04706; Dickkopf. N.
SEQUENCE 272 AA; 29297 MW; ADFAC3E7B8858A9E CRC64;
                                                                                                                                                                                                Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 224 AA.
                                                                                                                                                                                                                                                                                                                                                                                                            4; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Tate G., Suzuki T., Mitsuya T.;
                                                                                                                                                                                                                                                                              EMBL; BC050189; AAH50189.1;
HSSP; P25687; 11MT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STANDARD; ·
                                                                                                                                                                                                                                                                                                                                                                                                              24; Conservative
                                                                                                                                                                                                                                                     Strausberg R.;
Submitted (APR-2003) to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gene 238:301-313(1999).
                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Tate G., Mitsuya T.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   251 ¢ 251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         67 C 67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DKK4 HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Name=DKK4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DKK4_HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the BMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/anflounce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     144 SCLRIFDCGPGLCCARHFWIK---ICKPVLLEGQVCSRRGHKDTAQAPEIFQR----CDC 196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6 ACDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSC----HPLTRKVPFFGRRMHHTCPC 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      . .; NAS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Brachydanio rerio (Zebrafish) (Danio rerio).
Brachydanio rerio (Zebrafish) (Danio rerio).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
Cyprinidae; Danio.
NCBI_TaxID=7955;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                      -!- TISSUE SPECIFICITY: Expressed in cerebellum, T-cells, esophagus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Dickkopf rélated protein-4.
Dickkopf rélated protein-4 short form.
                                                                                                                                                                                                                                                                                                                                                                                 furin-like protease
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MIM; 605417; -.
GO; GO:0030178; P:negative regulation of Wnt receptor signali.
                                                                                                                                        "Signal peptide prediction based on analysis of experimentally verified cleavage sites.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 101.5; DB 1; Length 224; Pred. No. 0.0027; 6; Mismatches 25; Indels 11;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Developmental protein; Direct protein sequencing; Signal;
to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DKK-type Cys-2.
M -> L (in Ref. 3).
45F8EBC476961357 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Last sequende update)
Last annotation update)
                                                                                                                                                                                                     Protein Sci. 13:2819-2824(2004).
-!- FUNCTION: Inhibitor of Wnt signaling pathway.
-!- SUBCELLULAR LOCATION: Secreted.
                                                                                                                                                                                                                                                                                                                                                      -!- PTM: Appears to be not glycosylated.
-!- PTM: Can be proteolytically processed by a f
-!- SIMILARITY: Belongs to the dickkopf family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DKK-type Cys-1
                                                                                    PubMed=15340161; DOI=10.1110/ps.04682504;
Zhang Z., Henzel W.J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; AF177397; AAF02677.1; -...
EMBL; AB018005; BAA33475.1; -...
EMBL; AB018004; BAA33475.1; JOINED.
EMBL; AB018004; BAA33475.1; JOINED.
EMBL; AB017788; BAA33438.1; -...
HSSP; PZ5687; IIMT.
Genew; HGNC; 2894; DKK4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    dickkopf_N.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           218 DF
93 M
24875 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-MAY-2000 (TrEMBLrel. 13,
01-MAY-2000 (TrEMBLrel. 13,
01-MAR-2003 (TrEMBLrel. 23,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity 36.4%;
24; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    22.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    InterPro; IPR006796; dickko
Pfam; PF04706; Dickkopf_N;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  pathway.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 197 GPGLLC 202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       224 AA;
```

ю :

```
7
                                                                                                                                                                                                                 164 CLRSSDCAEGLCCARHFWSK---ICKPVLKEGQVCTKHKRK-GTHGLEIFQRCDCGEGLS 219
                                                                                                                                                                                            7 CDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCPCLPGLA 66
                    Submitted (JAA-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AB023488; BAA8213.1; -
ZFIN; ZDB-GENE-9907088-5; dkkl.
GO; GO:0005276; C:extracellular; IEA.
GO; GO:0003178; P:negative regulation of Wnt receptor signali. . .; IEA.
InterPro; IPR006796; dickkopf_N.
Fram; PF04706; Dickkopf_N, AA6CF04C5901AE12 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Roessler E., Du Y., Glinka A., Dutra A., Niehrs C., Muenke M.; "The genomic structure, chromosome location, and analysis of the human DKK1 head inducer gene a candidate for holoprosencephaly."; Cytogenet. Cell Genet. 89:220-224(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TISSUE=Fetal kidney;
MEDLINE=20035735; PubMed=10570958; DOI=10.1016/S0378-1119(99)00365-0;
Krupnik V.B., Sharp J.D., Jiang C., Robison K., Chickering T.W.,
Amaravadi L., Brown D.E., Guyot D., Mays G., Leiby K., Chang B.,
Duong T., Goodearl A.D.J., Gearing D.P., Sokol S.Y., McCarthy S.A.;
"Functional and structural diversity of the human Dickkopf gene
                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                   16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
25-JAN-2005 (Rel. 46, Last annotation update)
Dickkopf related protein-1 precursor (Dkk-1) (Dickkopf-1) (hDkk-1)
(SK) (UNQ492/PRO1008).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
MEDLINE=22887296; PubMed=12975309; DOI=10.1101/gr.1293003;
Clark H.F., Gurney A.L., Abaya E., Baker K., Baldwin D., Brush J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
TISSUB-Letcomycoma;
MEDLINE=99315900; PubMed=10383463; DOI=10.1074/jbc.274.27.19465;
Redi P., Baficco A., Nieto Soria A., Burgess W.H., Miki T.,
Bottaro D.P., Kraus M.H., Aaronson S.A.;
"Isolation and biochemical characterization of the human Dkk-1 homologue, a novel inhibitor of mammalian Wnt signaling.";
J. Biol. Chem. 274:19465-19472(1999).
                                                                                                                                                                       4;
                                                                                                                                            Query Match 21.7%; Score 100; DB 2; Length 240; Best Local Similarity 37.7%; Pred. No. 0.0043; Matches 23; Conservative 5; Mismatches 29; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Tate G., Suzuki T., Mitsuya T.;
Submitted (NOV-1998) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                266 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
MEDLINE=20422487; PubMed=10965128;
                                                                                                                                                                                                                                                                                                                               STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  family.";
Gene 238:301-313(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
Tate G., Suzuki T.,
 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                  220 C 220
                                                                                                                                                                                                                                            67 C 67
                                                                                                                                                                                                                                                                                                                             DKK1 HUMAN
094907;
                                                                                                                                                                                                                                                                                                                                                                                                                 Name=DKK1;
                                                                                                                                                                                                                                                                                                                   HUMAN
                                                                                                                                                                                                                                                                                                       RESULT 26
셤
                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                            8
```

```
MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
Strausberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
Altauner R.D., Colline F.S., Wagner L., Schaefer C.F., Bhat N.K.,
Altschul S.F., Zeeberg B. Buerow K.H., Schaefer C.F., Bhat N.K.,
Aptachenko L., Marushaa K., Farmer A.A., Rubin G.M., Hong L.,
Abatchenko L., Marushaa K., Farmer A.A., Rubin G.M., Hong L.,
Brandschon M., Soares M.B., Bonaldo M.F., Casavant T.L., Scheetz T.E.,
Brownstein M.J., Usdin T.B., TOSHIYUKI S., Carninci P., Prange C.,
Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
Bosak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaratne P.H.,
Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
Nilalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
Rahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,
Whiting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,
Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
Brands D.M., Schein J.E., Jones S.J.M., Marra M.A.;
Generation and initial analysis of more than 15,000 full-length human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                             effort to identify novel human secreted and transmembrane proteins: a
                                                                                                                                                                                                                                             ä
Chen J., Chow B., Chui C., Crowley C., Currell B., Deuel B., Dowd B. Baton D., Foster J., Grimaldi C., Gu Q., Hass P.E., Heldens S., Huang A., Kim H.S., Klimowski L., Johnson S., Lee J., Lewis L., Liao D., Mark M., Robbie B., Sanchez C., Schoenfeld J., Seshagiri S., Simmons L., Singh J., Smith V., Stinson J., Vagts A., Vandlen R., Watenabe C., Wieand D., Woods K., Xie M.-H., Yansura D. Yi S., Yu G., Yuan J., Zhang M., Zhang Z., Goddard A., Wood W.I., Godowski P., Gray A.;

"The secreted protein discovery initiative (SPDI), a large-scale
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       min, 020189; Figrowth factor activity, TAS.
GO; GO:0008083; Figral transducer activity, TAS.
Horston, IRNO6796; dickkopf.N.
Pfam; PF04706; Dickkopf.N.
Developmental protein; Direct protein sequencing; Glycoprotein;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pubbled=15340161; DOI=10.1110/ps.04682504;
Zhang Z., Henzel W.J.;
"Signal peptide prediction based on analysis of experimentally
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Protein Sci. 13:2819-2824(2004).
-!- FUNCTION: Inhibitor of Wht signaling pathway.
-!- SUBCELLULAR LOCATION: Secreted.
-!- TISSUE SPECIFICITY: Placenta.
-!- SIMILARITY: Belongs to the dickkopf family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; AB020314; BAA34651.1; JOINED.
EMBL; AF261158; AAG15544.1; -.
EMBL; AF261157; AAG15544.1; JOINED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       bioinformatics assessment.";
Genome Res. 13:2265-2270(2003).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL, AF127563; AAD21087.1; -.
EMBL, AF177394; AAF02674.1; -.
EMBL, AB020315; BAA34651.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EMBL; AY359005; AAQ89364.1;
EMBL; BC001539; AAH01539.1;
HSSP; P25687; 11MT.
Genew; HGNC:2891; DKK1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         and mouse cDNA sequences.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         verified cleavage sites.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     H-InvDB; HIX0008834; -.
MIM; 605189; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE OF 32-46
```

```
(TrEMBLrel. 23,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                      musculus (Mouse).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              78 1
183 2
52 52
259 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
les 22; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=10090;
                                                                                                   NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ċ 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    67 C 67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-MAR-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Name=Dkk2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      homolog)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q8BFW0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A STATE OF THE STA
g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .
7
                                                                                                                                                                                                                                                                5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          179 CLRSTDCIEGFCCARHFWTK---ICKPVLHQGEVCTKL-RKKGSHGLEIFQRCDCAKGLS 234
                                                                                                                                                                                                                                                                                                                                                              189 CLRSSDCASGLCCARHFWSK---ICKPVLKEGQVCTKHRRK-GSHGLEIFQRCYCGEGLS 244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCPCLPGLA 66
                                                                                                                                                                                                                                                                                                                  7 CDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCPCLPGLA 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Wnt receptor signali. . .; IEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
Dickkopf related protein-2 precursor (Dkk-2) (Dickkopf-2) (mDkk-2).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4
                                                                                                                            -linked (GlcNAc. .) (Potential)
5E878B2CCE4236BA CRC64;
                                                                                                                                                                                                         Length 266;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 255;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   21.5%; Score 99; DB 2; Length 255
36.1%; Pred. No. 0.0059;
tive 6; Mismatches 29; Indels
                                                                                                                                                                                                                                                                29; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Wu W., Glinka A., Delius H., Niehrs C.;
Submitted (NOV-2000) to the EMBL/GenBank/DDBJ databases.
EMBL; AJ300197; CAC17815.1; -.
HSSP; P25687; 11MT.
                                                       Dickkopf related protein-1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Potential.
dickkopf2.
F270B7DD0F4FCD73 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Last sequence update)
Last annotation update)
                                                                                                                                                                                                      Score 100; DB 1;
Pred. No. 0.0047;
5; Mismatches 29;
                                                                             DKK-type Cys-1.
DKK-type Cys-2.
N-linked (GlcNAc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          259 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GO; GO:0005576; C:extracellular; IEA.
GO; GO:0007275; P:development; IEA.
GO; GO:0030178; P:negarive regulation of InterPro; IPR066796; dickkopf N.
InterPro; IPR011052; Prot anvi inhib.
Pfam; PF04706; Dickkopf N.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Xenopus laevis (African clawed frog)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            29 Po
255 di
28096 MW;
        pathway.
                                                                                                                                                             28671 MW;
                                                                                                                                                                                                            Query Match 21.7%;
Best Local Similarity 37.7%;
Matches 23; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        16,
16,
23,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity 36.1 ies 22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-MAR-2001 (TrEMBLrel.
01-MAR-2001 (TrEMBLrel.
01-MAR-2003 (TrEMBLrel.
                                                       266
138
263
256
        Signal; Wnt signaling SIGNAL 1 31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Xenopodinae; Xenopus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1
30 2
255 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Dickkopf2 precursor.
                                                       32
85
189
256
266 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      235 ¢ 235
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  245 C 245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       C 67
                                                                                                                                                                                                                                                                                                                                                                                                                              67 C 67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DKK2 MOUSE
Q9QYZ8;
                                                                             DOMAIN
DOMAIN
CARBOHYD
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Q9DDA4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q9DDA4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DKK2_MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                09DDA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                BAPPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     硆
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ACCOCCOS ON THE READ ON THE RE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                            셤
        XFFFFS
SFFFFS
                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                          ઠે
```

```
This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage, by and for commercial,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            noved. Usage by and for commercial (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                7 CDXDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCPCLPGLA 66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-MAR-2003 (TTEMBLrel. 27, Last sequence update)
05-JUL-2004 (TTEMBLrel. 27, Last annotation update)
Mus musculus 10, 11 days embryo whole bddy cDNA, RIKEN full-length
enriched library, clone:2810421D01 product:DICKKOPF RELATED PROTEIN-2
enriched library, longer (MDKR-2) (MDKR-2) (DKK-2) (DKK-2) (MDKR-2) (MDKR-2)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STEAIN=C57BL/6J; IISSUE=Head, and Whole body; MEDLINE=99279253; PubMed=10349636; DOI=10.1016/S0076-6879(99)03004-9; Carninci P., Hayashizaki Y.;
                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MGD; MGI:1890663; Dkk2.
LeerPro; IPR006796; dickkopf_N.
Pfam: PF04706; Dickkopf_N; 1.
Developmental protein; Glycoprotein; Signal; Wnt signaling pathway.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mus musculus (Mouse).
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Butheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .) (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 259;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Dickkopf related protein-2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    52 N-linked (GlCNAc. . .) (Po
28416 MW; EAAB76F2D2C9780D CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        21.3%; Score 98; DB 1; ilarity 36.1%; Pred. No. 0.0077; Conservative 5; Mismatches 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DKK-type Cys-1.
DKK-type Cys-2.
N-linked (GlcNAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    259 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           entities requires a license agreement (Se
or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; AJ243963; CAB60110.1; -.
```

```
٠
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HUMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Name=DKK2;
                                                                                                                                                                                                                       Name=Dkk1
                 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Signal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SIGNAL
                                                                                                            OGPVUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                   셤
                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.

C STRAIN=C57BL/6J; TISSUB=Head, and Whole body;
A Adachi J., Aizawa K., Akimura T., Arakwa T., Bono H., Carninci P.,
Adachi J., Aizawa K., Akimura T., Hara A., Hashizume W.,
Hukuda S., Furuno M., Hanagaki T., Hara A., Hashizume W.,
A Hayashida K., Ishii Y., Itch M., Kagawa I., Kaukawa T.,
A Katoh H., Kawai J., Kojima Y., Kondo S., Konno H., Kouda M., Koya S.,
Katoh H., Kawai J., Kojima Y., Kondo S., Konno H., Kouda M., Koya S.,
A Kurihara C., Mateuyama T., Myazaki A., Murata M., Nakamura M.,
Nishi K., Nomura K., Numazaki R., Ohno M., Ohsato N., Okazaki Y.,
Saito R., Saito H., Sakai C., Sakai K., Sakazum N., Sancaki Y.,
A Sasaki D., Shibata K., Shinagawa A., Shiraki T., Sogabe Y., Tagami M.,
Tagawa A., Takahashi F., Takaku-Akahira S., Takeda Y., Tanaka T.,
Tomaru A., Toya T., Yasunishi A., Muramatsu M., Hayashizaki Y.,
EMBL, AK02825; BAC25841; -.
EMBL, AK02825; BAC25841; -.
                                                                                                                                                                                                                                      the RIKEN Genome Exploration Research Group Phase I & II Team; "Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length cDNAs."; Nature 420:563-573 (2002).
                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
STRALN=C57BL/6J; TISSUB=Head, and Whole body;
MEDLINE=20499374; PubMed=11042159; DOI=10.1101/gr.145100;
Carninci P., Shibata Y., Hayatsu N., Sugahara Y., Shibata K., Itoh M.,
Konno H., Okazaki Y., Muramatsu M., Hayashizaki Y.;
Wormalization and subbraction of cap-trapper-selected cDNAs to
prepare full-length cDNA libraries for rapid discovery of new genes.";
Genome Res. 10:1617-1630(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN=CS7BL/6J; TISSUE=Head, and Whole body;

MEDLINE=20530913; PubMed=11076861; DOI=10.1101/gr.152600;

Shibata K., Itoh M., Aizawa K., Nagaoka S., Sasaki N., Carninci P.,

Konno H., Akiyama J., Nishi K., Kiteunai T., Tashiro H., Itoh M.,

Sumi N., Ishii Y., Nakamura S., Hazama M., Nishine T., Harada A.,

Sumimoro R., Mateunoto H., Sakaguchi S., Ikegami T., Kashiwagi K.,

Fujiwake S., Inoue K., Togawa Y., Izawa M., Ohara E., Watahiki M.,

Yoneda Y., Ishikawa T., Ozawa K., Tanaka T., Mateuura S., Kawai J.,

Koraki Y., Muramatsu M., Inoue Y., Kira A., Hayashizaki Y.,

"RIKEN integrated sequence analysis (RISA) system-384-format

sequencing pipeline with 384 multicapillary sequencer.";
                                                                                                                  "Functional annotation of a full-length mouse cDNA collection."; Nature 409:685-690(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 21.3%; Score 98; DB 2; Length 259; Best Local Similarity 36.1%; Pred. No. 0.0077; Matches 22; Conservative 5; Mismatches 30; Indels
                                                                      STRAIN=C57BL/6J; TISSUE=Head, and Whole body;
MEDLINE=21085660; PubMed=11217851; DOI=10.1038/35055500;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               28432 MW; E649ED8E3BC7E8E4 CRC64;
                                                                                                                                                                                                STRAIN-C57BL/61; TISSUE-Head, and Whole body; The FANTOM Consortium,
"High-efficiency full-length cDNA cloning.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GO; GO:0005615; C:extracellular space; TAS.
InterPro; IPR066796; dickkopf N.
InterPro; IPR011052; Prot_amyI_inhib.
Pfam; PF04706; Dickkopf N; 1.
                                                                                                          RIKEN FANTOM Consortium;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MGI:1890663; Dkk2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PF04706; Dickkopf
                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
                                                     SEQUENCE FROM N.A.
```

67 C 67

셤

ò

Gaps

4;

```
99
                                                                                                                                                                                                                                                                                                                                                                       Weisheit G., Viebahn C.;
Submitted (MAR-2004) to the EMBL/GenBank/DDBJ databases.
EMBL, AXF35211: AAS91587.1; -.
GO; GO:0005576; C:extracellular; IEA.
GO; GO:0007275; P:devabopment; IEA.
GO; GO:000718; P:negative regulation of Wnt receptor signali. . .; IEA.
InterPro; IPR006796; dickkopf_N.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   7 CDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCPCLPGLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TISSUE=Fetal lung;
MEDLINE=20035735; PubMed=10570958; DOI=10.1016/S0378-1119(99)00365-0;
Krupnik V.E., Sharp J.D., Jiang C., Robison K., Chickering T.W.,
Amaravadi L., Brown D.E., Guyot D., Mays G., Leiby K., Chang B.,
Duong T., Goodearl A.D.J., Gearing D.P., Sokol S.Y., McCarthy S.A.;
"Functional and structural diversity of the human Dickkopf gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       16-00T-2001 (Rel. 40, Created)
16-00T-2001 (Rel. 40, Last sequence update)
05-UUL-2004 (Rel. 44, Last annotation update)
Dickkopf related protein-2 precursor (Dkk-2) (Dickkopf-2) (hDkk-2)
                                                                                                                                                                                                                                               Oryctolagus cuniculus (Rabbit).
Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Lagomorpha, Leporidae, Oryctolagus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 268;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A.
Tanaka S., Sugimachi K., Sugimachi K.;
Submitted (OCT-1999) to the EMBL/GenBank/DDBJ databases.
[3]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Potential.
77044F6D92C4014A CRC64;
                                                                                                                                             05-JUL-2004 (TrEMBLrel. 27, Created)
05-JUL-2004 (TrEMBLrel. 27, Last sequence update)
05-JUL-2004 (TrEMBLrel. 27, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        21.3%; Score 98; DB 2; Le 37.7%; Pred. No. 0.0079; iive 5; Mismatches 29;
                                                                                                        268 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     259 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 30 Pr
268 AA; 28951 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Pfam; PF04706; Dickkopf_N; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 23; Conservative
                                                                                                      PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gene 238:301-313(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens (Human)
                                                                                                                                                                                                           Dickkopf1 precursor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                         NCBI_TaxID=9986;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (UNQ682/PR01316)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Q9UB<u>U</u>2; Q9UIU3;
16-OCT-2001 (Rel
239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C 247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        67 C 67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       family
```

```
sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                                                                                          SEQUENCE FROM N.A. TISSUE=Brain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI TaxID=9606;
                                                              NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         family
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   7 CDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCPCLPGLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -i- TISSUE SPECIFICITY: Expressed in heart, brain, skeletal muscle and
                  MEDLINE=22887296; PubMed=12975309; DOI=10.1101/gr.1293003; Clark H.F., Gurney A.L., Abaya E., Baker K., Baldwin D., Brush J., Chen J., Chow B., Chui C., Crowley C., Currell B., Deuel B., Dowd P., Eaton D., Foster J., Grimaldi C., Gu Q., Hass P.E., Heldens S., Huang A., Kim H.S., Klimowski L., Jin Y., Johnson S., Lee J., Lewis L., Liao D., Mark M., Robbie E., Sanchez C., Schoenfeld J., Seshagiri S., Simmons L., Singh J., Smith V., Stinson J., Vagts A., Vandlen R., Watanabe C., Wieand D., Woods K., Xie M.-H., Yansura D., Yi S., Yu G., Yuan J., Zhang M., Zhang Z., Goddard A., Wood W.I.,
                                                                                                                                                                                                                                                "The secreted protein discovery initiative (SPDI), a large-scale effort to identify novel human secreted and transmembrane proteins: a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           lung.
-!- PTM: May be proteolytically processed by a furin-like protease.
-!- SIMILARITY: Belongs to the dickkopf family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Developmental protein; Glycoprotein; Signal; Wnt signaling pathway
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .) (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           4;
                                                                                                                                                                                                                                                                                                                                                                SEQUENCE OF 75-259 FROM N.A.

Tate G., Suzuki T., Mitsuya T.;
Submitted (NOV-1999) to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21.0%; Score 97; DB 1; Length 259; 36.1%; Pred. No. 0.0099; tive 5; Mismatches 30; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Potential.
Dickkopf related protein-2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         34 259 Dickkopt related process 78 127 DKK-type Cys-1.
183 256 DKK-type Cys-2.
52 52 N-linked (GlCNAc. . .) (Po 259 AA; 28447 MW; 39DDAJFA8975E87F CRCG4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             171 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MIM; 605415; -. Goxtracellular space; TAS. GO; GO:0005615; C:extracellular space; TAS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL, AY358414; AAQ88780.1; --
EMBL, AB035181, BAA87056.1; --
EMBL, AB035180; BAA87056.1; JOINED.
Genew, HGNC:2892; DKK2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                            -i- SUBCELLULAR LOCATION: Secreted
                                                                                                                                                                                                                                                                                                 bioinformatics assessment.";
Genome Res. 13:2265-2270(2003).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; AF177395; AAF02675.1; -.
EMBL; AB033208; BAA85465.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-JUN-1998 (TrEMBLrel. 06, 01-JUN-1998 (TrEMBLrel. 06, 01-MAR-2004 (TrEMBLrel. 26,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pfam; PF04706; Dickkopf_N;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity 36.1
ses 22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              239 ¢ 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  67 C 67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RIG-like 7-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             043532
043532;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             043532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BATATA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              윰
           SOLUTION TO THE PROPERTY OF TH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
```

```
52 CDNORDCOPGLCCAFORGL-LFPVCTPLPVEGELCHDPASRLLDLITWELEPDGALDRCP 110
                                                                                                                                                                                                                                                                                                                                                                                                         Wnt receptor signali. . .; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      7 CDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCH-PLTRKVPFFGRRMH-----HTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TISSUB-Fetal brain;
MEDLINE-20035735; PubMed=10570958; DOI=10.1016/S0378-1119(99)00365-0;
Krupnik V.E., Sharp J.D., Jiang C., Robison K., Chickering T.W.,
Krupnik V.E., Sharp J.D., Maye G., Leiby K., Chang B.,
Amaravadi L., Brown D.E., Guyot D., Maye G., Leiby K., Chang B.,
Duong T., Goodearl A.D.J., Gearing D.P., Sokol S.Y., McCarthy S.A.;
"Functional and structural diversity of the human Dickkopf gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE=20119095; PubMed=10652205; DOI=10.1006/bbrc.1999.2067; Tsuji T., Miyazaki M., Sakaguchi M., Indue Y., Namba M.; "A REIC gene shows down regulation in human immortalized cells and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DKK3_HUMAN STANDARD; PRT; 350 AA.
Q9UBP4; Q9ULB7;
L6-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
25-JAN-2005 (Rel. 46, Last annotation update)
Dickkopf related protein-3 precursor (Dkk-3) (Dickkopf-3) (hDkk-3) (UNQ258/PRO295).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Name-DKK3; Synonyms-RBIC;
Homo sapiens (Hunan).
Bukaryota; Metakuman.
Mammalia; Butheria; Primates; Catarrhini; Hominidae; Homo.
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo
                                                                                                                                                                                             Ligon A.H., Pershouse M.A., Jasser S., Hong Y.K., Yung W.K.A., Steck P.A.,
Steck P.A.,
Submitted (NOV-1997) to the EMBL/GenBank/DDBJ databases.
BMBL, AF034208, AA8926641,
GO, GO:000576; C:extracellular; IEA.
GO, GO:0007275; P:development; IEA.
GO, GO:0007275; P:negative regulation of Wnt receptor signali.
InterPro; IPR006796; dickkopf interPro; IPR006796; dickkopf interPro; IPR011052; Prot amyl inhib.
PF04706; Dickkopf N; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20.6%; Score 95; DB 2; Length 171; 29.5%; Pred. No. 0.011;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; Pred. No. 0.011;
11; Mismatches 36; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              K., Sugimachi K.;
to the EMBL/GenBank/DDBJ databases.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     to the EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pfam; PF04706; Dickkopf N; 1. SEQUENCE 171 AA; 19283 MW; B890E38F873D0E62 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Biochem. Biophys. Res. Commun. 268:20-24 (2000)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                numan tumor-derived cell lines.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                111 CXSGLLCQPHSHSLVYVC 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 CLPGLACLRTSFNR-FIC 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 23; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gene 238:301-313(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tanaka S., Sugimachi
Submitted (OCT-1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
Tate G., Mitsuya T.;
Submitted (NOV-1999)
```

9

```
DRANGORAN AND RANGORAN AND RANG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Straubberg R.L., Feingold E.A., Grouse L.H., Derge J.G.,
Alausner R.D., Collins F.S., Wagner L., Shenmen C.M., Schuler G.D.,
Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
Altschul S.F., Zeeberg B., Buetow K.H., Schaefer C.F., Bhat N.K.,
Antenneko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,
Stapleton M., Soares M.B., Bonaldo M.F., Carannor P.L., Scheetz T.E.,
Brownstein M.J., Usdin T.B., Toobhyuki S., Carannor P., Prange C.,
Raha S.S., Loquellano N.A., Peters G.J., Abramson R.D., Mullahy S.J.,
Broak S.A., McEwan P.J., McKernan K.J., Malek J.A., Gupt. Hulyk S.W.,
Nilalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,
Richards S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,
Whiting M., Madan A., Young A. Sodergren E.J., Lu X., Gibbs R.A.,
Blakesley R.W., Touchman J.W., Green E.D., Dickson M.C.,
Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
Butterfield Y.S.N., Krzywinski M.I., Skalska U., Smailus D.E.,
Broneration and initial analysis of more than 15,000 full-length human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bloinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Protein Sci. 13:2819-2824(2004).
-!- FUNCTION: Inhibitor of Wnt signaling pathway (Potential).
-!- SUBCELLULAR LOCATION: Secreted.
-!- TISSUE SPECIFICITY: Highest expression in heart, brain, and spinal
MEDLINE=21673998; PubMed=11814687; DOI=10.1016/S0378-1119(01)00838-1;
                                                                                                                                                                                                                                                                                                                                               MEDLINE-22887296; PubMed=12975309; DOI=10.1101/gr.1293003; MEDLINE-22887296; PubMed=12975309; DOI=10.1101/gr.1293003; Clark H.F., Gurney A.L., Abaya E., Baker K., Baldwin D., Brush J., Chen J., Chow B., Chui C., Crowley C., Currell B., Deuel B., Dowd P. Eaton D., Foster J., Grimaldi C., Gu Q., Hass P.E., Heldens S., Huang A., Kim H.S., Klimowski L., Jin Y., Johnson S., Lee J., Liao D., Mark M., Robbie E., Sanchez C., Schoenfeld J., Seshagiri S., Simmons L., Singh J., Smith V., Stinson J., Vagts A., Van G., Watan D., Wacds K., Xie M.-H., Yansura D., Godowski P., Gray A., Zhang M., Zhang Z., Goddard A., Wood W.I.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        "The secreted protein discovery initiative (SPDI), a large-scale effort to identify novel human secreted and transmembrane proteins:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PubMed=15140161; DOI=10.1110/ps.04682504;
Zhang Z., Henzel W.J.;
"Signal peptide prediction based on analysis of experimentally
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=22388257; PubMed=12477932; DOI=10.1073/pnas.242603899;
                                Kobayashi K., Ouchida M., Tsuji T., Hanafusa H., Miyazaki M., Namba M., Shimizu K.;
"Reduced expression of the REIC/Dkk-3 gene by promoter-hypermethylation in human tumor cells.";
Gene 282:151-158(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            and mouse cDNA sequences.";
Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PTM: N-glycosylated.
SIMILARITY: Belongs to the dickkopf family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    bioinformatics assessment.";
Genome Res. 13:2265-2270(2003).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; AF177396; AAF02676.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       verified cleavage sites."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE OF 22-36.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE=Kidney
```

AB033421; BAA85488.1; -. AB034203; BAA80548.1; -. AB035182; BAA87044.2; AB045205; BAA87044.2; JOINED.

EMBL; EMBL;

```
9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Dubmedialy (1920) Dulantial Dulantial Dulantial Dubmedial Dulantial Dulantia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7 CDKDSQCGCGCCAVSIWVKSIRICTPMGKLGDSCH-PLTRKVPFFGRRMH-----HTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
                                                                                                                                                                                                                                                                               MIM; 605416; -.
GO; GO:0005615; C:extracellular space; TAS.
GO; GO:0005653; P:morphogenesis; TAS.
InterPro; IPR006796; dickkopf N.
InterPro; IPR011052; Prot amyl_inhib.
Pfam; PF04706; Dickkopf N. 1.
Developmental protein; Direct protein sequencing; Glycoprotein; Signal; Wit signaling pathway.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            . .) (Potential) . .) (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (Potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 350;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      36; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          protein-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -> R (in kel. 3, . 72F504122B40AFFE CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-OCT-2002 (TrEMBLrel. 22, Created)
01-OCT-2002 (TrEMBLrel. 22, Last sequence update)
01-JUN-2003 (TrEMBLrel. 24, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Poly-Åla.
N-linked (GlCNAC. .
N-linked (GlCNAC. .
N-linked (GlCNAC. .
N-linked (GlCNAC. .
G -> R (in Ref. 4).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (Glenae.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          related
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 95; DB 1;
Pred. No. 0.022;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Dickkopf related DKK-type Cys-1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    215 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      11; Mismatches
                  AB045207; BAA87044.2; JOINED.
AB045208; BAA87044.2; JOINED.
AB045209; BAA87044.2; JOINED.
AB045210; BAA87044.2; JOINED.
AB075211; BAA87360.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUB=Amygdala;
PubMed=14702039; DOI=10.1038/ng1285;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | || | | : ::|
CASGLLCQPHSHSLVYVC 284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLPGLACLRISFNR-FIC 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hypothetical protein FLJ33633.
Homo sapiens (Human).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     38291 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20.6%;
                                                                                                                                                                      AY358378; AAQ88744.1;
BC007660; AAH07660.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                                                                                                           HGNC:2893; DKK3.
                                                                                                                                                                                                                                                     H-InvDB; HIX0009450; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21
350
1955
284
343
343
106
1121
335
335
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   350 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=9606;
AB045206;
                                                                                                                                                                                                                                                                          MIM; 605416; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DOMAIN
DOMAIN
CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CONFLICT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CARBOHYD
                                                                                                                                                                 EMBL; AY
EMBL; B(
Genew; I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Q8N294;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Q8N294
                                                                      EMBL;
                                                                                                                     EMBL;
EMBL;
                                                                                                EMBL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 34
Q8N294
```

```
email to license@isb-sib.ch)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          67 C 67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ¢ 221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-NOV-1999
                                                                                                                                                                                                                                                                                                                          21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Dickkopf-1.
    or send an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Name=dkk1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         221
                                                                                                                                                                                                                                           CARBOHYD
                                                                                                                                                                                                                                                             SEQUENCE
                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                               CARBOHYD
                                                                                                                                                                                                                            CARBOHYD
                                                                                                                                                                                                                                                                                                             Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     609M60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      609M60
                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         609M60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ծ
      g
                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation-the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
Musashino K., Yuuki H., Oshima A., Sasaki N., Aotsuka S.,
Yoshikawa Y., Matsunawa H., Ichihara T., Shiohata N., Sano S.,
Moriya S., Momiyama H., Satoh N., Takami S., Terashima Y., Suzuki O.,
Nakagawa S., Senoh A., Mizoguchi H., Goto Y., Shimizu F., Wakebe H.,
Hishigaki H., Watanabe T., Suyiyama A., Takemoto M., Kawakami B.,
Yamazaki M., Watanabe K., Kumagai A., Itakura S., Fukuzumi Y.,
Pujimori Y., Komiyama M., Tashiro H., Tanigami A., Pujiwara T.,
A Kuwabata A., Hikiji T., Kobatake N., Inagaki H., Ikema Y., Okamoto S.,
A Kukiani R., Kawakami T., Noguchi S., Itoh T., Shigeta K., Senba T.,
A Mitani R., Kawakami T., Noguchi S., Itoh T., Shigeta K., Senba T.,
A Togashi T., Oyama M., Hata H., Watanabe M., Komatsu T.,
A Misubima-Sugano J., Saroh T., Shirai Y., Takabashi Y., Nakagawa K.,
A Nakai K., Nagase T., Nomura N., Kikuchi H., Masuho Y., Yamashita R.,
A Nakai K., Yada T., Nomura N., Kikuchi H., Masuho Y., Yamashita R.,
A Nakai K., Yada T., Nakamura Y., Ohara O., Isogai T., Sugano S.;
T. "Complete sequencing and characterization of 21,243 full-length human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                           EMBL, AK090952; BAC03555.1; -. GO, GO:0005576; C:extracellular; IEA. GO, GO:0007275; P:development; IEA. GO, GO:0007275; P:negative regulation of Wnt receptor signali. . .; IEA. InterPro; IPR006796; dickkopf_N.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            7 CDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCH-PLTRKVPFFGRRMH-----HTCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              11 CDNQRDCQPGLCCAFQRGL-LFPVCTPLPVBGBLCHDFASRLLDLITWBLBFDGALDRCP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-NOV-1997 (Rel. 35, Created)
01-NOV-1997 (Rel. 35, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
Dickkopf related protein-3 precursor (Dkk-3) (Dickkopf-3) (Lens fiber protein CLFEST4).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Archosauria, Aves, Neognathae, Galliformes, Phasianidae, Phasianinae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TISSUE-Lens fibers,
MEDLINE=96437509; PubMed=8840185;
Sawada K., Agata K., Eguchi G.;
Sawada K., Agata K., Eguchi G.;
"Characterization of terminally differentiated cell state by categorizing cDNA clones derived from chicken lens fibers.";
Int. J. Dev. Biol. 40:531-535(1996).
-! FUNCTION: Inhibitor of Wnt signaling pathway (By similarity).
-! SUBCELLULAR LOCATION: Secreted (Potential).
-! TISSUE SPECIFICITY: Expressed in eye lens.
-! SIMILARITY: Belongs to the dickkopf family.
                                                                                                                                                                                                                                                                                                                                                                                                                          20.5%; Score 94.5; DB 2; Length 215; 31.3%; Pred. No. 0.016;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            31; Indels
                                                                                                                                                                                                                                                                                                                                                                                Pfam; PF04706; Dickkopf N; 1.
SEQUENCE 215 AA; 23904 MW; 2D9DEABCAFAE80B0 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            8; Mismatches
                                                                                                                                                                                                                                                                                 Genet. 36:40-45(2004)
                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 31.3'
Matches 21, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gallus gallus (Chicken).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CASGLLC 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 CLPGLAC 67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NCBI_TaxID=9031;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DKK3 CHICK
Q90839;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Name=DKK3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20
                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gallus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 35
DKK3_CHICK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
```

```
5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          165 CLRSSDCAETLCCARHFWSK---ICKPVLKEGOVCTKHKRK-GTHGLEIFQRCDCGEGLS 220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             200 CENQHDCNPGTCCA---PQKELLFPVCTPLPEBGEPCHDPSNRLLNLITWELEPDGVLER 256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GO; GO:0005576; C:extracellular; IEA.
GO; GO:0007275; P:development; IEA.
GO; GO:0030178; P:negative regulation of Wnt receptor signali. . .; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           7 CDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCPCLPGLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
MEDIJINE=20500887; PubMed=11044603; DOI=10.1016/S0925-4773(00)00433-0;
MEDIJINE=20500887; PubMed=11044603; DOI=10.1016/S0925-4773(00)00433-0;
Shinya M., Eschbach C., Clark M., Lehrach H., Furutani-Seiki M.;
Zebrafish Dkkl, induced by the pre-MBT Wnt signaling, is secreted from the prechordal plate and patterns the anterior neural plate.";
Mech. Dev. 98:3-17(2000).
EMBI, 4F116852; ADD22461.1; -.
ZFIN; ZDB-GENE-990708-5; dkkl.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  7 CDKDSQCGGGMCCAVSIWVKSI--RICTPMGKLGDSCH-PLTRKVPFFGRRMH-----HT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Brachydanio rerio (Zebrafish) (Danio rerio).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Actinopterygii; Neopterygii; Teleostei; Ostariophysi; Cypriniformes;
Cyprinidae; Danio.
                                          Pfam; PF04706; Dickkopf N.

Pfam; PF04706; Dickkopf N. 1.

Developmental protein; Glycoprotein; Signal; Wnt signaling pathway.

SIGNAL 129 Potential.

CHAIN 30 350 Dickkopf related protein-3.

DOMAIN 139 187 DKK-type Cys-1.

DOMAIN 200 277 DKK-type Cys-2.

CARBOHYD 88 88 N-linked (GlcNAC. . .) (Potential).

CARBOHYD 98 98 N-linked (GlcNAC. . .) (Potential).
                                                                                                                                                                                                                                                              (Potential). (Potential). (Potential).
                                                                                                                                                                                                                                                                                                                                                                                                                                       11;
                                                                                                                                                                                                                                                                                                                                                                         Score 92.5; DB 1; Length 350;
Pred. No. 0.041;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            20.0%; Score 92; DB 2; Length 241; 36.1%; Pred. No. 0.033; ive 5; Mismatches 30; Indels
                                                                                                                                                                                                                                                                                                                                                                                                       ,
0.041;
~heg 28; Indels
                                                                                                                                    Dickopf related protein-3.
DKK-type Cys-1.
DKK-type Cys-2.
N-linked (GlCNAc. .) (Poter N-linked (GlCNAc. .)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SCS3DBD62F3EE00C CRC64;
                                                                                                                                                                                                                                                                                                                                      39208 MW; 57BE7ED850089DAE CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                          9; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     dickkopf_N.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pfam; PF04706; Dickkopf N; I. SEQUENCE 241 AA; 26139 MW;
                                                                                                                                                                                                                                                                                                                                                                                          20.1%;
30.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 36.1%;
Matches 22; Conservative
EMBL; D26311; BAA05373.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-NOV-1999 (TrEMBLrel. 12, 01-MAR-2003 (TrEMBLrel. 23,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (TrEMBLrel. 12, (TrEMBLrel. 12,
                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRELIMINARY;
                                                                                                                                                                                                                                                                   1113
196
282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          257 CPCASGLIC 265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        59 CPCLPGLAC 67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IPR006796;
                                                                                                                                                                                                                                                                                                                                           350 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                             HSSP; P25687; 11MT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=7955;
                                                                                                                                              30
139
200
88
88
113
113
282
```

```
SEQUENCE FROM N.A.
STRAIN=C57BL/6J; TISSUE=Liver;
MEDLINE=22354683; PubMed=12466851; DOI=10.1038/nature01266;
  'n
                                                                                                                                                                                                                                                                                                                                                                                                                                              7 CDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCH-PLTRKVPFFGRRMH-----HTCP 60
                                                                                                                                                                                                                                                                      EMBL; AF245640; AAG15890.1; ... GO; GO:0005576; C:extracellular; IEA.
GO; GO:0007275; P:development; IEA.
GO; GO:0030178; P:negative regulation of Wnt receptor signali. .; IEA.
InterPro; IPR006796; dickkopf_N.
Pfam; PF04706; Dickkopf_N; 1.
SEQUENCE 277 AA; 30763 MW; 8025F66DFE4C205E CRC64;
                                                                                                                                                                                                                                      "Cloning, expression, and functional characterization of the substrate binding subunit of rat type II iodothyronine 5'-deiodinase."; J. Biol. Chem. 275:25194-25201(2000).
                                                                       01-MAR-2001 (TrEMBLrel. 16, Last sequence update)
01-MAR-2003 (TrEMBLrel. 23, Last annotation update)
Substrate binding subunit of type II 5'-deiodinase D2p29.
Rattus norvegicus (Rat).
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE=99425169; PubMed=10495270; DOI=10.1016/S0925-4773(99)00138-0; Monaghan P.A., Kioschis P., Wu W., Zuniga A., Bock D., Poustka A., Delius H., Niehrs C.; "Niehrs C.;" Niehrs C.;" "Dickkopf genes are co-ordinately expressed in mesodermal lineages."; mech. Dev. 87:45-56(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
MEDLINE=20035735; PubMed=10570958; DOI=10.1016/S0378-1119(99)00365-0;
                                                                                                                                                                         SEQUENCE FROM N.A.
STRAIN-Sprague-Dawley; TISSUB-Brain;
MEDLINE=20400444; PubMed=10829019; DOI=10.1074/jbc.M002036200;
Leonard D.M., Stachelek S.J., Safran M., Farwell A.P., Kowalik T.F.,
Leonard J.L.;
                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Krupnik V.E., Sharp J.D., Jiang C., Robison K., Chickering T.W., Amaravadi L., Brown D.E., Guyot D., Mays G., Leiby K., Chang B., Dhong T., Goodearl A.D.J., Gearing D.P., Sokol S.Y., McCarthy S.A., "Functional and structural diversity of the human Dickkopf gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            090003.
16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
05-JUL-2004 (Rel. 44, Last annotation update)
Dickkopf related protein-3 precursor (Dkk-3) (Dickkopf-3)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Rodentia, Sciurognathi, Muridae, Murinae, Mus
                                                                                                                                                                                                                                                                                                                                                                              19.8%; Score 91.5; DB 2; Length 277;
                                                                                                                                                                                                                                                                                                                                                                                                      31; Indels
                                                                                                                                                                                                                                                                                                                                                                                        Pred. No. 0.043;
9; Mismatches 3
                                    277 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      349 AA
                                                             01-MAR-2001 (TrEMBLrel. 16, Created)
01-MAR-2001 (TrEMBLrel. 16, Last seqn
01-MAR-2003 (TrEMBLrel. 23, Last ann
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRT;
                                                                                                                                                                                                                                                                                                                                                                                           29.98;
                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity 29.9 es 20; Conservative
                                    PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    family.";
Gene 238:301-313(1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       196 CASGLLC 202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mus musculus (Mouse)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 CLPGLAC 67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
                                                                                                                                                   NCBI_TaxID=10116;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NCBI_TaxID=10090;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MOUSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Name=Dkk3;
                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                          Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOUSE
             RESULT 37
                          Q9ES33
                                                  d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                               8
```

```
RA Meazaki Y., Furuno M., Saito R., Suzuki H., Yamanaka I., Kiyosawa H., RA Mikaido I., Osato N., Saito R., Suzuki H., Yamanaka I., Kiyosawa H., RA Mikaido I., Osato N., Saito R., Suzuki H., Yamanaka I., Kiyosawa H., RA Madarelli R., Thill D.P., Bult C., Hume D.A., Guackenbush J., Baldarelli R., Hasegawa Y., Nogami A., Schonbach C., Gojobori T., Baldarelli R., Haill D.P., Bult C., Hume D.A., Guackenbush J., Baldarelli R., Bradt D., Brusic V., Chothia C., Corbani L.E., Cousins S., RA Blake J.A., Bradt D., Brusic V., Chothia C., Corbani L.E., Cousins S., RA Garaterland T., Gariboldi M., Gissi C., Godzik A., Frazer K.S., Ranai A., Kawaji H., Kawasawa Y., Kedzierski R.M., King B.L., Konagaya A., Kurochkin I.V., Lee Y., Lenhard B., Lyons P.A., Ronagaya A., Waltais L., Marchionni L., McKenzie L., Miki H., Rayashima T., Numate K., Okido T., Pavan W.J., Pertea G., Pescole G., Rayashima T., Numate K., Okido T., Pavan W.J., Pramachandran S., Ranachandran S., Schneider K., Serpie C.A., Serou M., Shimada K., Ashadelin A., Schneider C., Serpie C.A., Serou M., Shimada K., Andlested C., Wang Y., Watanabe Y., Walls C., Wanner R., Takenaka Y., Taylor M.S., Teasdale R.D., Tomita M., Kawai T., Rawai T., Rawai T., Rawai T., Rawai T., Rahalested C., Wang Y., Watanabe Y., Walls C., Wall K., Kawai J., Aizawa K., Arakawa T., Fukuda S., Haraka T., Waki K., Kawai J., Aizawa K., Arakawa T., Fukuda S., Aniraki T., Waki K., Kawai J., Aizawa K., Arakawa T., Fukuda S., Ranaishi A., Yoshino M., Waterston R., Lander E.S., Rogers J., Analysis of the mouse transcriptome based on functional annotation of 60,770 full-length CDNAs., Shibata K., Shiraki Y., Alalysis C., All R., Nature 420:563-573(2002).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 REPUBLICE FROM N.A.

SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

STRAIN=657BL/6; TISSUE=Brain, and Retina;

STRAIN=237BL/6; TISSUE=Brain, and Retina;

STRAIN=237BL/6; TISSUE=Brain, and Retina;

STRAIN=237BL/6; TISSUE=Brain, and Retina;

RA STRAIN=878 SED;

RA Altesolul S.F., Zeeberg B., Buerow K.H., Schaefer C.F., Bhat N.K.,

RA Altesolul S.F., Zeeberg B., Buerow K.H., Schaefer C.F., Bhat N.K.,

RA Altesolul S.F., Jordan H., Moore T., Max S.I., Wang J., Haieh F.,

RA Diatchenko L., Marusina K., Farmer A.A., Rubin G.M., Hong L.,

RA Stableton M.J., Ugdin T.B., Toshivki S., Carninci P., Prange C.,

RA Boast S.A., McEwan P.J., McKernan K.J., Malek J.A., Gunaracha P.H.,

RACHAGE S., Worley K.C., Hale S., Garcia A.M., Gay L.J., Hulyk S.W.,

Villalon D.K., Muzny D.M., Sodergren E.J., Lu X., Gibbs R.A.,

RA Fahey J., Helton E., Ketteman M., Madan A., Rodrigues S., Sanchez A.,

Mitting M., Madan A., Young A.C., Shevchenko Y., Bouffard G.G.,

RA Butterfield Y.S.N., Krzywinski M.I., Skaleka U., Smailus D.E.,

RA Butterfield Y.S.N., Krzywinski M.I., Skaleka U., Smailus D.E.,

RA Generation and initial analysis of more than 15,000 full-length human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          is in no way for commercial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.lsb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             and mouse CDNA sequences.";

Proc. Natl. Acad. Sci. U.S.A. 99:16899-16903(2002).
-!- FUNCTION: Inhibitor of Wnt signaling pathway (Potential).
-!- SUBCELLULAR LOCATION: Secreted.
-!- TISSUE SPECIFICITY: Highest expression in brain, eye and heart.
-!- SIMILARITY: Belongs to the dickkopf family.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL, AJ243964, CAB60111.1; -.
EMBL, AR177400, AAF02680.1; -.
EMBL, AK004853, BAB23617.1; -.
EMBL, BC046304, AAH46304.1; -.
```

```
61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               time
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Search
Job tim
Q6PQ81
            ò
                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                         ñ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CDNQRDCQPGLCCAFQRGL-LFPVCTPLPVEGELCHDPTSQLLDLITWELEPEGALDRCP 266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              99
                                                                                                                                                                                                                               7 CDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCH-PLTRKVPFFGRRMH-----HTCP 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .; IEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE=98111224; PubMed=9450748; DOI=10.1038/34848; Glinka A., Ww W., Delilus H., Monaghan A.P., Blumenstock C., Niehrs C.; Bickkopf I is a member of a new family of secreted proteins and functions in head induction.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              7 CDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCHPLTRKVPFFGRRMHHTCPCLPGLA
                                               Glycoprotein; Signal; Wnt signaling pathway.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Amphibia; Batrachia; Anura; Mesobatrachia; Pipoidea; Pipidae; Xenopodinae; Xenopus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Nature 391:357-362 (1998).

EMBL, AF030434; AAC02427.1; -.

EMBL, AF0304576; C:extracellular; IEA.

GO; GO:000575; P:development; IEA.

GO; GO:0030178; P:negative regulation of Wnt receptor signali...

InterPro; IPR006796; dickkopf_N.
                                                                   Dicktopf related protein-3.

DKK-type Cys-1.

DKK-type Cys-2.

N-linked (GlCNAc. . .) (Potential).

N-linked (GlCNAc. . .) (Potential).

N-linked (GlCNAc. . .) (Potential).

N-linked (GlCNAc. . .) (Potential).
                                                                                                                                                                               19.6%; Score 90.5; DB 1; Length 349; 29.9%; Pred. No. 0.069; ive 9; Mismatches 31; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19.5%; Score 90; DB 2; Length 259; 34.4%; Pred. No. 0.059; ative 6; Mismatches 30; Indels
                                                                                                                                                  564CB3C4FB2EAB88 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 25 Potential.
259 AA; 28865 MW; C2698DB6D9560457 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                         Last sequence update)
Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                     259 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Xenopus laevis (African clawed frog).
                                                                                                                                                                                                                                                                                                                                                                                              Created)
EMBL; BC050934; AAH50934.1; -. MGD; MGI:1334952; Dkk3. InterPro; PPR006796; dickopf_N. Pfam; PF04706; Dickkopf N; 1. Developmental protein; Glycoprote
                                                                                                                                                           38387 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pfam; PF04706; Dickkopf_N; 1
                                                                                                                                                                                                                                                                                                                                                                                            01-JUN-1998 (TrEMBLrel. 06, 01-JUN-1998 (TrEMBLrel. 06, 01-MAR-2003 (TrEMBLrel. 23,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Local Similarity 34.4
Matches 21; Conservative
                                                                                                                                                                                            Best Local Similarity 29.9 Matches 20, Conservative
                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
                                                                       349
195
284
96
106
                                                                                                                                                                                                                                                                                                        CASGLLC 273
                                                                                                                                                                                                                                                                                 61 CLPGLAC 67
                                                                                                                                                           349 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                   Xdkk-1 precursor.
Name=Xdkk-1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 67 C 67
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                    CARBOHYD
                                                                                                                                                                                                                                                          208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                            CARBOHYD
                                                                                                                                                           SEQUENCE
                                                                                                                                                                                   Query Match
                                                                                                                       CARBOHYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ignal.
                                                                        CHAIN
                                                             SIGNAL
                                                                                               DOMAIN
                                                                                                                                                                                                                                                                                                                                                                     057464
                                                                                                                                                                                                                                                                                                                                                                                   ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
   ò
                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                    ઠ
                                                                                                                                                                                                                                                                                                         셤
```

```
4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        208 CDNQRDCQPGLCCAFQRGL-LFPVCIPLPVSGBLCHDPASRLLDLITWELEPDGALDRCP 266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           7 CDKDSQCGGGMCCAVSIWVKSIRICTPMGKLGDSCH-PLTRKVPFFGRRMH-----HTCP 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           . .; IEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                              Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia, Eutheria, Primates, Catarrhini, Hominidae, Homo.
NCBI_TaxID=9606;
                                                                                                                                                                                                                                                                                                                                     TISSUE-Liver;
Hsieh P.-S., Chen W.-Y.;
Hsieh S.-Y., Hsieh P.-S., Chen W.-Y.;
Submitted (APR-2004) to the EMBL/GenBank/DDBJ databases.
EMBL; AYS97550; AS86757.1; -.
GO, GO:0005576; C:extracellular; IEA.
GO, GO:0007275; P:development; IEA.
GO, GO:0001275; P:negative regulation of Wnt receptor signali.
InterPro; IPR066796; dickkopf_N.
Efam; PF04706; Dickkopf_N; D.
SEQUENCE 350 AA; 38340 MW; E888B5C3F8294D41 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
19.3%; Score 89; DB 2; Length 350;
Best Local Similarity 28.2%; Pred. No. 0.1;
Matches 22; Conservative 11; Mismatches 37; Indels
                                                                     us-uUL-2004 (TrEMBLrel. 27, Last sequence update) 05-JUL-2004 (TrEMBLrel. 27, Last annotation update) Putative tumor suppressor Dkk-3/REIC.
350 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       completed: November 7, 2005, 21:00:03
ne : 111.587 secs
                                                     Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         267 CASGLLCQPHSHSLVYVC 284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLPGLACLRISFNR-FIC 77
                                                   (TrEMBLrel. 27, (TrEMBLrel. 27, (TrEMBLrel. 27,
     PRELIMINARY;
                                                                                                                                                                                    Homo sapiens (Human)
                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
  Q6PQ81
Q6PQ81;
05-JUL-2004 (
05-JUL-2004 (
                                                                                                                                                           Name=DKK3;
```

C 237

237

THIS PAGE BLANK (USPTO)